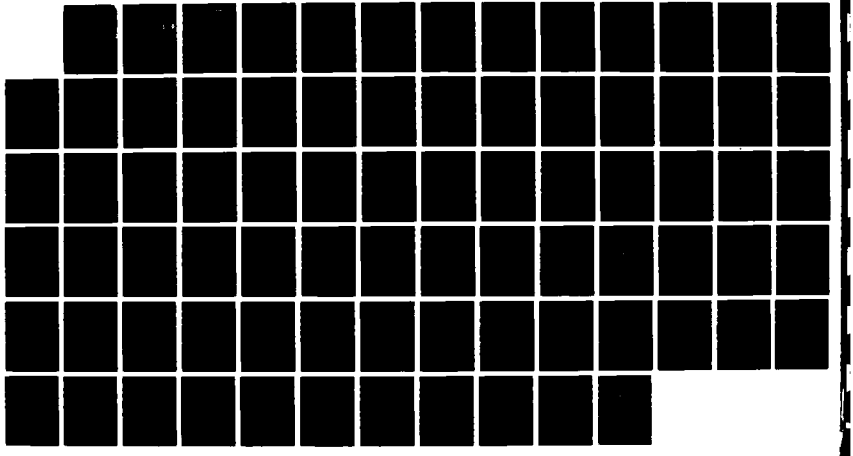
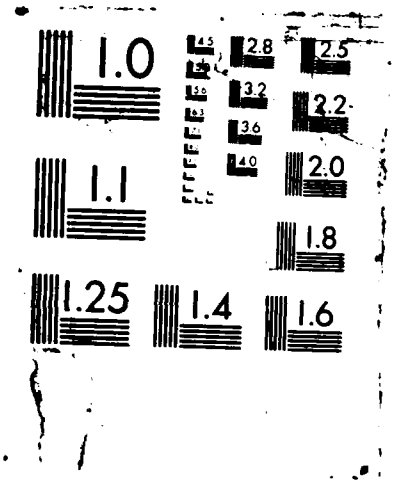
AD-A191 397 CORPS STAY-BEHIND FORCE -- A ROLE FOR THE LIGHT INFANTRY DIVISION ON THE..(U) ARMY COMMAND AND GENERAL STAFF COLL FORT LEAVENWORTH KS SCHOO.. M E RICHMOND 1/1

UNCLASSIFIED 05 DEC 87 F/G 15/6 NL




1.0
2.8
2.5
3.2
2.2
3.6
4.0
2.0
1.1
1.8
1.25
1.4
1.6

(2)

# CORPS STAY-BEHIND FORCE--
# A Role for the Light Infantry Division On the Central European Battlefield





by

MELVIN E. RICHMOND, JR., MAJ, USA
Infantry

School of Advanced Military Studies
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas

5 December 1987

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE

# REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

AD-A191 399

| | |
|---|---|
| 1a. REPORT SECURITY CLASSIFICATION<br>UNCLASSIFIED | 1b. RESTRICTIVE MARKINGS |
| 2a. SECURITY CLASSIFICATION AUTHORITY | 3. DISTRIBUTION/AVAILABILITY OF REPORT<br>Approved for public release; distribution unlimited. |
| 2b. DECLASSIFICATION/DOWNGRADING SCHEDULE | |
| 4. PERFORMING ORGANIZATION REPORT NUMBER(S) | 5. MONITORING ORGANIZATION REPORT NUMBER(S) |
| 6a. NAME OF PERFORMING ORGANIZATION<br>School of Advanced Military Studies<br>6b. OFFICE SYMBOL (If applicable)<br>ATZL-SWV | 7a. NAME OF MONITORING ORGANIZATION |
| 6c. ADDRESS (City, State, and ZIP Code)<br>Fort Leavenworth, Kansas 66027-6900 | 7b. ADDRESS (City, State, and ZIP Code) |
| 8a. NAME OF FUNDING/SPONSORING ORGANIZATION<br>8b. OFFICE SYMBOL (If applicable) | 9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER |
| 8c. ADDRESS (City, State, and ZIP Code) | 10. SOURCE OF FUNDING NUMBERS<br>PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT ACCESSION NO. |

11. TITLE (Include Security Classification)
Corps Stay-Behind Force--A Role for the Light Infantry Division on the Central European Battlefield (U)

12. PERSONAL AUTHOR(S)
Richmond, Melvin Elton, Jr., Major, USA

| 13a. TYPE OF REPORT | 13b. TIME COVERED | 14. DATE OF REPORT (Year, Month, Day) | 15. PAGE COUNT |
|---|---|---|---|
| Monograph | FROM _____ TO _____ | 1987, December, 5 | 70 |

16. SUPPLEMENTARY NOTATION

| 17. COSATI CODES | | | 18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number) |
|---|---|---|---|
| FIELD | GROUP | SUB-GROUP | stay-behind infantry<br>light infantry |
| | | | |
| | | | |

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

This paper discusses a role for the light infantry division in Central Europe during a mid- to high-intensity conflict, namely as a stay-behind force in a corps covering force area. The purpose of such a mission would be to disrupt the enemy's rear echelon elements; to delay the advance of his second echelon forces; to provide continuous intelligence to the forces fighting in the main battle area (MBA); and to assist in the parent corps' counter-offensive.

The monograph first defines stay-behind operations and forces, and then discusses the missions a stay-behind force can accomplish. Next, it examines the actual conduct of a stay-behind mission for a light infantry division, analyzing the conduct of the operation using the eight operating systems commonly used in after-action reviews at the US Army's National Training Center. Due to its importance to this concept, the study also includes an analysis of the human element of combat during stay-behind operations. Finally, this study discusses the effects on,and reaction of, a Soviet force attacking through (continued on other side of form)

| 20. DISTRIBUTION/AVAILABILITY OF ABSTRACT | 21. ABSTRACT SECURITY CLASSIFICATION |
|---|---|
| ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS | UNCLASSIFIED |
| 22a. NAME OF RESPONSIBLE INDIVIDUAL<br>MAJ Melvin E. Richmond, Jr. | 22b. TELEPHONE (Include Area Code)<br>(913) 684-2138 / 22c. OFFICE SYMBOL<br>ATZL-SWV |

DD Form 1473, JUN 86 *Previous editions are obsolete.*

SECURITY CLASSIFICATION OF THIS PAGE
UNCLASSIFIED

the light infantry division's area of operations.

This monograph concludes that stay-behind forces present the enemy with a dilemma: he can either continue his rapid advance and suffer the accompanying attrition of forces and disruption of tempo certain to occur; or he can commit a large part of his force to clearing the stay-behind forces. Either way, the stay-behind force accomplishes its mission.

This concept capitalizes on the synergistic effect that heavy and light forces can generate at the large unit level. The light infantry division is the first headquarters that can adequately coordinate fires, direct the intelligence collection effort of the stay-behind force, and direct the peaks and lulls of stay-behind activity based on corps' requirements. The light infantry division can establish the preconditions for the eventual defeat of a Soviet attack in the NBA by intensifying the effects of friction on the Soviet advance. They do this by delaying the advance of follow-on echelon forces and disrupting the entire Soviet attack in their sector through interdiction of all aspects of the Soviet's combat, combat support, and combat service support operations in their rear area. The Soviets claim that speed is the necessary prerequisite for a successful attack. Stay-behind forces in significant numbers, an entire division, will deny the Soviets the requisite speed for a successful offensive, and ensure the success of a NATO forward defense.

# CORPS STAY-BEHIND FORCE--
# A Role for the Light Infantry Division On the Central European Battlefield

by

MELVIN E. RICHMOND, JR., MAJ, USA
Infantry



School of Advanced Military Studies
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas



5 December 1987



88-2142

SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

Name of Student: Melvin E. Richmond, Jr., MAJ, USA

Title of Monograph: Corps Stay-Behind Force--A Role for the Light Infantry Division on the Central European Battlefield

Approved by:

_____, Monograph Director
Colonel John G. Williams, OBE,
MA (Cantab)

_____, Director, School of
Colonel L.D. Holder, MA Advanced Military Studies

_____, Director, Graduate Degree
Philip J. Brookes, Ph.D. Programs

Accepted this 14th day of December 1987.

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (Reference to this study should include the foregoing statement.)

## ABSTRACT

CORPS STAY-BEHIND FORCE--A ROLE FOR THE LIGHT INFANTRY DIVISION ON THE CENTRAL EUROPEAN BATTLEFIELD by MAJ Melvin E. Richmond, Jr., USA, 70 pages.

This paper discusses a role for the light infantry division in Central Europe during a mid- to high-intensity conflict, namely as a stay-behind force in a corps covering force area. The purpose of such a mission would be to disrupt the enemy's rear echelon elements; to delay the advance of his second echelon forces; to provide continuous intelligence to the forces fighting in the main battle area (MBA); and to assist in the parent corps' counter-offensive.

The monograph first defines stay-behind operations and forces, and then discusses the missions a stay-behind force can accomplish. Next, it examines the actual conduct of a stay-behind mission for a light infantry division, analyzing the conduct of the operation using the eight operating systems commonly used in after-action reviews at the US Army's National Training Center. Due to its importance to this concept, the study also includes an analysis of the human element of combat during stay-behind operations. Finally, this study discusses the effects of stay-behind operations on an attacking force with emphasis on the effects on, and reaction of, a Soviet force attacking through the light infantry division's area of operations.

This monograph concludes that stay-behind forces present the enemy with a dilemma: he can either continue his rapid advance and suffer the accompanying attrition of forces and disruption of tempo certain to occur; or he can commit a large part of his force to clearing the stay-behind forces. Either way, the stay-behind force accomplishes its mission.

This concept capitalizes on the synergistic effect that heavy and light forces can generate at the large unit level. The light infantry division is the first headquarters that can adequately coordinate fires, direct the intelligence collection effort of the stay-behind force, and direct the peaks and lulls of stay-behind activity based on corps' requirements. The light infantry division can establish the preconditions for the eventual defeat of a Soviet attack in the MBA by intensifying the effects of friction on the Soviet's advance. They do this by delaying the advance of follow-on echelon forces and disrupting the entire Soviet attack in their sector through interdiction of all aspects of the Soviet's combat, combat support, and combat service support operations in their rear area. The Soviets claim that speed is the necessary prerequisite for a successful attack. Stay-behind forces in significant numbers, an entire division, will deny the Soviets the requisite speed for a successful offensive, and ensure the success of a NATO forward defense.

TABLE OF CONTENTS

## SECTION 1

## INTRODUCTION

> The more complex the weapon system the greater the mathematical probability, therefore, of wrecking it, not by using a super counter-weapon, but by reverting to the use of a few skilled raiders armed with nothing but rifle, grenade, and explosive charge.
>
> ---Shelford Bidwell[1]

In the late 1970's military strategists began to observe a gap in the Army's force structure. The reduction in Army forces following the Vietnam War, and the realization that our forces in Europe were in critical need of modernization, resulted in an Army almost entirely postured toward a war in Europe. However, it was ill prepared to deploy rapidly and participate effectively in hostilities short of general war throughout the Third World. Although these threats were not as dangerous to the security of the United States as a war in Europe, it became evident that in the near future they were a much more likely contingency for our forces than a war in Europe.

The United States found itself without a force capable of dealing with such crises. In 1984, General John A. Wickham, Chief of Staff, USA, directed the formation of a force to fill this capabilities gap. World events had convinced him that "...credible forces do not always have to be heavy forces."[2] The Army needed a force capable of rapid deployment and offensive maneuver, possessing superior relative combat power and the ability to respond to crises throughout the world. To provide such a capability the Army activated five light infantry divisions (ID[L]).

Military analysts generally accept that the ID(L) is an effective force for low-intensity conflict, and even for many mid-intensity environments. However, a consensus on their ability to operate in Europe is not

so clear. The size of the US Army is such that although many envision the employment of ID(L)s only in conflicts in the lower end of the spectrum of conflict, the Army will require some or all of these new divisions for a war in Europe. Thus it is imperative that we investigate how NATO could employ our ID(L)s in the defense of Europe.

Most experts agree that the heavy corps defending the forward positions along the Inter-German border (IGB) could effectively employ light infantry by allocating brigades and battalions to its subordinate divisions. It is more difficult to find general agreement on a role for the ID(L) as a divisional organization in Europe.

Two missions commonly conferred upon the light ID(L) in Central Europe are for rear battle, or for the defense of close terrain such as the Hohe Rhon, the Vogelsberg, or the Hassberge. The aim of this paper is to consider a third mission for the ID(L) in Central Europe, namely as a stay-behind force in a corps covering force area (CFA). The purpose of such a mission would be to disrupt the enemy's rear echelon elements; to delay the advance of his second echelon forces; to provide continual intelligence to the forces fighting in the main battle area (MBA); and to assist in the parent corps' counter-offensive.

## SECTION 2

## STAY-BEHIND OPERATIONS

### DEFINITION

There is no definition in the Army's FM 101-5-1, Operational Terms and Symbols for either stay-behind forces or stay-behind operations. JCS Pub. 1, The Department of Defense Dictionary of Military and Associated Terms defines a stay-behind force as, "a force which is left in position to conduct a specified mission when the remainder of the force withdraws or retires from the area."[3] FM 100-5, the Army's capstone manual, does not even discuss stay-behind operations. However, the new light infantry manuals, particularly FM 7-72, Light Infantry Battalion, discuss stay-behind operations in some depth, characterizing them as missions uniquely suited to light infantry. Stay-behind operations require a highly disciplined, well trained force for successful execution of the mission. The subordinate elements of the force conducting the mission must also be capable of operating independently. Light infantry is particularly suited to independent operations on a non-linear battlefield.[4] Thus, it would be an ideal stay-behind force.

### MISSIONS OF STAY-BEHIND FORCES

FM 7-72, Light Infantry Battalion describes stay-behind operations as "high-risk, high-payoff tactical operation(s)." By their very nature, stay-behind operations are highly risky ventures, but if successful, their results can pay dividends which far exceed their cost. It states that the mission of stay-behind forces is to:

> ...surprise and counterattack to disrupt and confuse the enemy.
> ...(C)ounterattacks should be directed against unprotected flanks

and the rear, and they should attack or ambush enemy C³, CS, and CSS elements. Stay-behind operations can be used as part of defense or delay missions.[5]

The primary purpose of a stay-behind force in a corps CFA is to disrupt the Soviet's rear area operations. These operations include attacks on enemy command, control and communications, fire support, air defense, engineer, and logistical assets. Further, the stay-behind force can assist in disrupting the advance of second-echelon forces as they approach the main battle area.

The first of these is the disruption of the enemy's command and control system. Many believe it an area in which the Soviets would prove extremely vulnerable. Their highly centralized systems of command and control "suggest that, for maximum effectiveness, scarce deep-strike assets (of NATO forces) should be directed first at disruption (my emphasis) or destruction of the attacker's (Soviet) command and staff functions."[6]

From their positions well behind the enemy's forward attacking elements, stay-behind forces would initially identify likely command and control nodes, and then direct attacks on the enemy by air and field artillery assets, if available and within range. By accepting greater risk, stay-behind forces could even conduct ambushes and raids to destroy these installations themselves. "Such attacks would exploit the relative inflexibility of (Warsaw) Pact tactical units and threaten to overload centralized control (over their subordinate units)...."[7]

The Soviet Army depends heavily on its rocket and artillery assets to establish the pre-conditions for a successful offensive. Disruption of fire support operations including ammunition resupply and the destruction of soft-skinned targets such as towed artillery, missile systems and target

acquisition systems by light infantry stay-behind forces could seriously degrade the Soviet's current superiority in fire support means over NATO.

The Soviets generally mount their air defense and engineer assets on soft-skinned chassis which are vulnerable to attack by artillery, air, and even light infantry direct fire. As such they are high-payoff targets for any stay-behind force. The Soviet Army places great emphasis in both of these areas as they are key to enabling their ground forces to maintain a rapid advance. By crippling these two arms, the stay-behind force would greatly diminish the Soviet's obstacle crossing capability, and enhance the US forces' ability to project air power into that portion of the Soviet rear area.

The enemy's logistical support system, including his resupply and maintenance activities, and rear area combat service support installations would also be high-priority targets for a stay-behind force. The relative vulnerability of these targets make them prime targets for interdiction by artillery (if in range) and air attack directed by stay-behind forces, and to raids or sabotage conducted by the light infantry.

Finally, one of the most important missions of stay-behind forces is to provide intelligence to their higher headquarters. Human intelligence (HUMINT) is a reliable means of gathering intelligence, and stay-behind forces can play a critical role in this area.

## SECTION 3

## CONDUCT OF STAY-BEHIND OPERATIONS

Consideration must now be given to the conduct of operations by a light infantry division performing a stay-behind mission. The concept of intentionally using stay-behind forces to disrupt enemy rear area operations is not a new one. Wars of the twentieth century are full of examples of successful employment of light infantry in a stay-behind role and clearly illustrate the utility of stay-behind forces, and the relative effectiveness of light infantry forces facing armored formations.[9]

In the first portion of this chapter, the conduct of the stay-behind operation is discussed. Following this, an analysis of the operation is presented in terms of the eight operating systems commonly used in after-action reviews at the US Army's National Training Center. Due to their importance to this concept, a discussion of the considerations of the human element of combat during stay-behind operations concludes the analysis.

### GENERAL

The commander's and staff's estimate of the situation determines the manner in which the division conducts a stay-behind operation. Generally, an ID(L) would conduct the operation in one of three ways: one brigade forward and two in the rear located in the corps MBA (in which case it probably should not be a division operation); two brigades forward and one in reserve in the corps MBA; and last, all three brigades employed forward of the FEBA. This last option will probably only be possible when the corps has a deep CFA, about thirty to forty kilometers deep. This study analyzes the conduct of a divisional stay-behind operation with two

brigades forward and one in corps reserve. It is also important to emphasize that this mission will be possible only if the necessary time is available for preparation of the Area of Operations.[10]

The corps sector of the 10th (US) Corps in the TRADOC Common Teaching Scenario, October 1985 (Figure 1, p.42) is typical of that of an actual US corps' defensive sector in Europe. The corps' CFA is generally twenty kilometers in depth and sixty kilometers wide, for a total area of 1200 square kilometers. If corps assigns a stay-behind mission to an ID(L) in an area such as this it would probably conduct the operation with two brigades as a stay-behind force in the CFA, and one in corps reserve in the MBA.

The ID(L) will more than likely assign its subordinate brigades the mission of conducting stay-behind operations within brigade-sized Tactical Areas of Responsibility (TAOR's). The actual stay-behind forces would occupy platoon-sized "hide" positions within platoon TAOR's throughout the CFA (Figures 2 and 3, pp.42-43). This would mean that if there were two brigades forward and one in reserve in the MBA, each platoon (54 total) would have a TAOR covering an average of twenty-two square kilometers (4km wide x 5km deep). If there were three brigades forward, each platoon would have a TAOR typically covering fifteen square kilometers (3km x 5km).

Battalions and companies would conduct an elastic defense (Figure 2, p.42). Platoons occupy "hides" in areas providing the maximum amount of natural cover and concealment while still providing clear observation over enemy avenues of approach and key terrain (See Figure 3, p.43). These locations would most likely be on reverse slopes, in wooded or urban terrain, and in other armor restrictive terrain.[11] By capitalizing on

"natural" cover and concealment the light infantry force reduces its preparation time, and reduces both its visual and Infrared (IR) signatures. An important aspect of the platoon "hides" is that they cannot become fixed "battle positions" for the platoons. Rather, they should serve more in the manner of patrol bases from which the platoon departs to conduct ambushes, raids, sabotage operations, etc.

Phase one of the operation would be the covering force battle itself. In this phase, the corps should control its heavy forces assigned to the CFA. The first advantage to this is that the covering force not only fulfills its usual functions, but also deceives the enemy as to the other force present in the CFA. It also allows the corps and the armored cavalry regiment, or any other heavy unit used as the covering force, to maintain their habitual command and control relationship as practiced during training. However, the main advantage is that the ID(L) is left to concentrate on its stay-behind mission without assuming the additional burden of directing the operations of the covering force. The ID(L)'s role in the covering force battle is merely to supplement the combat operations of the covering force by reporting information, and directing field artillery bombardments and air strikes against the approaching enemy. In short, the ID(L)'s operations should not be attributable to a force that is going to conduct a stay-behind operation. The intent is to keep the enemy unaware of the developing threat to their rear area.

Phase two of the operation will begin as the covering force conducts battle handover with the MBA forces at the FEBA. At this time, the stay-behind operation begins. During daylight hours the forces of the ID(L) will continue to direct artillery strikes against the enemy as long as

their supporting artillery remains in range. The stay-behind force will maximize the use of DPICM and Copperhead munitions fired from supporting artillery within the corps MBA. By engaging with indirect fire stay-behind forces avoid decisive contact for as long as possible. The stay-behind force will also call for and direct close air support missions forward of the FEBA, providing exact target location and terminal guidance for many of the munitions. They could even direct many of the corps' Battlefield Air Interdiction (BAI) missions. Elements of the stay-behind force must avoid direct fire engagements during daylight except for self-protection. Should direct fire engagements occur during daylight, the presence of stay-behind forces in the CFA will rapidly become apparent.

The hours of darkness belong to the light infantry. The division is equipped with an abundance of night vision devices and its training during peacetime emphasizes night operations. Ambushes, raids, and reconnaissance patrols will occupy the night hours of the light infantry, thus creating havoc in the Soviet rear area. The light infantry will emplace bombing beacons, harassment minefields, off-route mines, and booby traps. Snipers with night vision devices will kill key enemy personnel and vehicle drivers. These will not only confuse night operations by the Soviets, but will also disrupt their daytime advance.

The ID(L) will continue its stay-behind operation for as long as possible, or for a designated period of time. It will accomplish its resupply through a cache system augmented in some cases by aerial resupply. As a last phase of the operation, the ID(L) may reconnoiter and prepare counterattack routes for a corps operation to restore the IGB, or it may have to exfiltrate the CFA by ground exfiltration or aerial extraction.

## ANALYSIS

The analysis that follows uses the eight operating systems as a framework.

### Intelligence

> HUMINT has the potential to discover the most guarded secrets concerning enemy intentions. It generally has an advantage in the collection of less precise and quantifiable information requiring qualitative and value judgments. HUMINT sometimes suffers in timeliness of information. However, much overt tactical HUMINT is immediately exploitable as combat information.[12]

When a corps employs an ID(L) as a stay-behind force, the ID(L) could well be the corps commander's greatest intelligence gathering asset forward of the Forward Edge of the Battle Area (FEBA). As the corps' primary agent of human intelligence (HUMINT), the ID(L) could provide timely, accurate, and immediately exploitable intelligence. In conjunction with unattended sensors and stand-off intelligence gathering systems, the infantryman on the ground can complete the picture or confirm dubious reports from other sources.

Light infantrymen can observe Named Areas of Interest (NAIs) and Targeted Areas of Interest (TAIs), thus providing the corps with precise information on enemy activity. The advantage of employing a division with at least two brigades forward in the CFA as a stay-behind force, is that it would be capable of observing every avenue of approach of company-size or greater throughout the depth of the division's area of operation. This would effectively deny the Soviets the ability to achieve tactical surprise in the corps area with its ground forces. The division would also provide a single point of contact for the corps for the transmission of gathered intelligence.

Although normally HUMINT can suffer from delays in reporting, intelligence from a stay-behind force, given current advances in communications technology, would be immediate and continuous. Additionally, the information would be immediately exploitable by independent corps organizations attacking the identified units, or through attack by the light infantry division's assets. Regardless of the unit conducting the attack, the infantry observer providing the spot report could also provide terminal guidance for the attacking system or force.

The stay-behind force would also gather intelligence crucial to the success of any cross-FLOT operations or counterattacks conducted by the corps. The light infantry could accurately report the status of counterattack routes and the location of air defense systems along air corridors. This reduces the possibility of unexpected enemy engagements during movement to the objectives.

## Maneuver

> Maneuver is the movement of forces in relation to the enemy to secure or retain a positional advantage. It is the dynamic element of combat--the means of concentrating forces at the critical point to achieve the surprise, psychological shock, physical momentum, and moral dominance which enable smaller forces to defeat larger ones. The effects of maneuver may also be achieved without movement by allowing the enemy to move into a disadvantageous position, as in an ambush or with stay-behind forces....Tactical maneuver seeks to set the terms of combat in a battle or engagement.[13]

Light infantry lacks the armor protection, mobility, and organic firepower to stand toe-to-toe against a Soviet mechanized attack in open terrain. As such, stay-behind operations by light infantry against an armor heavy force are designed around "allowing the enemy to move into a disadvantageous position" relative to the stay-behind force. However, this does

not entail a "passive" defense of battle positions within the CFA. Within its designated TAOR the subordinate elements of the ID(L) must operate offensively against the attacking enemy through the use of sabotage, ambushes, and other harassing "hit and run" type operations. If the stay-behind forces attempt to "hold" terrain or stubbornly defend its positions, the enemy will either fix and bypass it, or rapidly overrun it.

> ...a small force operating in the midst of a larger enemy force can be either exposed to superior firepower or pinned in place and subsequently destroyed in detail. A high-tempo operation fractures an opponent, preempts and avoids his reactions, and thereby grants security to a small force. Through high tempo operations, small units can begin the disintegration of an enemy formation...[14]

Dispersion and concealment are inseparable aspects for an ID(L) conducting a stay-behind operation in a corps CFA. The stay-behind mission will encompass an elastic defense of the TAOR, with most subordinate elements of the division operating from platoon-size "hide" positions. They may gather into larger organizations of company or possibly even battalion-size formations to conduct ambushes and raids, or for an exfiltration or breakout at the conclusion of the stay-behind operation.

Dispersion of the stay-behind force offers advantages and disadvantages to both the heavy forces defending in the MBA and the ID(L) in the CFA. First, as has already been noted, dispersion provides observation over the maximum number of avenues leading into and through the ID(L)'s area of operations. These "outposts" are responsible for reporting Soviet activity to higher headquarters, effectively suppressing the Soviet ability to achieve tactical surprise between the FLOT and the FEBA.

In regards to the ID(L), dispersion provides not only a wide range of observation, but also protection. Dispersion subverts the effects of firepower by presenting targets of insignificant proportions to its enemy.

> Dispersion protects the infantry by reducing its detectability and target size, thereby contributing to elusiveness and ambiguity. This makes targeting difficult, except by area saturation fires, which are often impractical because of the large amount of ammunition needed. Indeed, the attempt to counter elusiveness by weight of firepower alone soon leads to exhaustion.[15]

On the negative side, the presence of numerous friendly positions forward of the FEBA will complicate the execution of MBA counterattacks into the CFA. This problem will require detailed coordination between the ID(L), corps headquarters, and the counterattacking force. but is manageable.

## Fire Support

Artillery: While in range, field artillery will be an important "non-attributable" means of engaging the enemy by stay-behind forces. Along with logistics, which this study discusses later, field artillery is the biggest coordination challenge when considering the employment of an ID(L) as a stay-behind force.

The ID(L) and the divisions defending in the MBA must resolve numerous fire support coordination problems. The ID(L) must have final control of all fires into its TAOR. Clear coordinated control measures such as restricted fire lines (RFL), fire support coordination lines (FSCL), restricted fire areas (RFA), and no-fire areas (NFA) are critical to the protection of the stay-behind force. The exact location of all primary and alternate positions of all forces in the covering force area must be known to the ID(L)'s supporting artillery units so that they will know the extent of their freedom to fire. As noted earlier, the division would position its

subordinate units in platoon "hides". If each platoon had only one primary and one subsequent position, there would be over one hundred small RFAs within the CFA.[16] Although manageable manually by subdividing fire support responsibility in the CFA among the various supporting artillery units, a computerized system would reduce the difficulty of this proposition.

Fortunately, future technology may provide many of the answers to the complex problem of fire support coordination during stay-behind operations. High technology systems such as the Single-Channel Ground and Airborne Radio System (SINCGARS), the Army's proposed new Advanced Field Artillery Tactical Data System (AFATDS)[17], and digital burst transmission communication devices and position locating systems such as PJH[18], allow observers in the stay-behind force to transmit target data to the fire direction centers quickly, securely, and accurately. They will also enhance fire support coordination by allowing supporting artillery to monitor locations of stay-behind forces.

Other systems such as the Ground Laser Locator Designator (GLLD)[19] allow a stay-behind observer to engage enemy targets with Cannon Launched Guided Projectiles (CLGP) such as the XM712 Copperhead munitions from the artillery, Hellfire from ground and Army aviation platforms, and a variety of laser guided munitions launched from aerial platforms. These systems provide deadly accurate terminal guidance in a "non-attributable" fashion. The enemy would have great difficulty in determining the source of his problems. "Off-set lasing" techniques against the enemy would further confuse the enemy by making him totally unaware that he was being "lased".[20]

Due to the nature of stay-behind operations, it is highly unlikely that the ID(L) would position any of its fire support assets, other than mortars, in its area of operations. This necessitates close coordination between the corps forces defending in the MBA and the ID(L) for positioning of the artillery assets supporting the ID(L) or firing on corps targets, some of which the stay-behind parties will identify. It is also highly unlikely that the ID(L) could logistically support additional artillery assets the corps may assign it, therefore it should "control only the effects of the fires, not the firing units" themselves.[21] An "attached less administration/logistics" or "reinforcing" relationship best fulfills the fire support requirements for field artillery augmentation. These relationships provide the necessary fire support while minimizing the logistical burden on the division.

When considering fire support relationships, systems which help to control the fires are also critical. Most heavy units currently use TACFIRE to control their fire direction, but light infantry units do not possess a TACFIRE capability. Either the supporting units would have to provide the light infantry unit the necessary equipment, interface, and trained personnel, or light infantry units need a lightweight TACFIRE capability added to their current organizational structure.

Another option would be for the fire direction centers (FDC) of the supporting artillery units to operate manually to accommodate light infantry forward observers. In any case, the supporting artillery must be prepared to operate manually as requests for fire originate from positions lacking dedicated artillery forward observers.

Weapon selection is critical when considering fire support augmentation. One of the ID(L)'s greatest weaknesses in a mid- to high-intensity environment is its lack of tank-killing systems. The corps can alleviate this problem in large measure by augmenting the stay-behind force with organizations capable of firing anti-armor munitions such as DPICM, Copperhead and FASCAM. In the case of the latter two munitions, the 155mm howitzer is the only weapon capable of delivery. Therefore, these should be the primary systems supporting the stay-behind force. This is not to say corps should not allocate systems with greater range than the 155mm howitzer to the division. Systems such as the 203mm howitzer and the Multiple Launch Rocket System (MLRS) may be necessary to range to the outer limits of the division's area of operations. The MLRS and the 203mm howitzer are especially effective for counterfire missions, thereby reducing one of the primary threats to stay-behind forces, enemy artillery.

Air Support: Coordination of close air support (CAS) and battlefield air interdiction (BAI) will also be critical when operating in conjunction with stay-behind forces. The ID(L) commander must assume terminal control of all air support assets operating in his area of operations. Although this limits the MBA commanders' ability to strike enemy targets forward of the FEBA, having direct observation over the targets would greatly enhance the probability of striking high payoff targets.

Ground observers monitoring the targets from the moment of target request to the impact of the munition would greatly enhance the effectiveness of CAS and Army aviation, as well as the survivability of these scarce assets. Observers in the stay-behind force could provide timely updates of target location, information concerning the air defense threat, and also

provide terminal guidance of munitions into the actual target. They could actively participate in the Suppression of Enemy Air Defenses (SEAD) mission by directing fires against enemy air defense systems or possibly clearing minimum risk routes within the CFA of air defense systems.

The Joint Air Attack Team (JAAT) enhances the effectiveness of each of its component parts; attack helicopters, Air Force CAS, field artillery, and ground direct fire systems. When operating beyond the FEBA, among the most difficult problems for the JAAT are target identification and the control and integration of attack assets. The ID(L) as a stay-behind force can actively monitor pre-planned JAAT engagement areas (See Figure 2; EA BAT) to ensure effective synchronization of all assets, and could expedite the coordination necessary for spontaneous JAAT operations.

Survivability of Stay-Behind Forces Versus Soviet Artillery

The light infantry division's ability to survive the effects of the enemy's (and possibly friendly) fire support assets is a critical factor in the viability of stay-behind forces. A prerequisite for employing an ID(L) as a stay-behind force is that adequate time is available for the division to prepare primary and secondary positions complete with adequate overhead cover. As previously noted, use of reverse slopes, and wooded and urbanized terrain will greatly reduce the time necessary for preparation, but it will not eliminate the need. If time is available, and if positions are properly sited (i.e. use of reverse slopes and defilade positions, building basements, etc.) there is no reason why infantry in dug-in positions could not survive Soviet or friendly artillery bombardment.

The German Infantry School conducted a test of infantry survivability against the Soviet norms for field artillery and mortar bombardment. They

discovered in this test that infantry in the open, protected by only hasty prone cover, would receive 100% casualties. Infantry in trenches without overhead cover would sustain 30% casualties. But, infantry in trenches with overhead cover would receive less than 10% casualties.[22]

Along with the infantry being in covered positions, the dispersion and concealment of a stay-behind force would further ameliorate the effect of Soviet artillery. Target acquisition would be extremely difficult for the Soviets. They would have to determine initially the location of the artillery observer. This becomes extremely difficult when the stay-behind force uses directional antennas and burst radio transmissions to call for fires, and uses GLLDSs to mark targets. To suppress every wood line or piece of terrain which may conceal observers would require an immense bombardment and consume an inordinate amount of ammunition.[23] This ammunition expenditure would be occurring whilst undiscovered elements of the stay-behind force continue to interdict ammunition resupply lines and other Soviet fire support operations. Additionally, the intensity of the bombardments necessary would work to the Soviet's detriment by littering his avenue of approach with debris and craters.

> ...to mount a bombardment of this kind, the attacking force would have to overcome a number of problems and, in trying to do so, would risk playing right into the enemy's (stay-behind force's) hands. As we have seen, a principal role of light forces has always been to buy time for their main force; and this kind of defensive system is designed to enable them to do just that. Turning massive firepower on the various positions <u>might</u> (my emphasis) suppress the defenders (if any remain at that location); but, equally, it will oblige the attacker to halt or slow down his advance, concentrate and deploy his units, and bring up ammunition stocks--all operations that will prove very time consuming, particularly as they will have to be repeated several times as the attacker penetrates through the defensive web.[24]

Along with recent experimentation such as that the German Infantry School conducted, history does not support the contention that light infantry will be unable to survive the Soviet artillery bombardment. In World War I, the Third Battle of Ypres in 1917 consumed over 4.3 million rounds of artillery with relatively few casualties. In World War II, during the battle for Cassino in 1944, the Allies used over 1100 artillery pieces to continually shell enemy emplacements for eight weeks. Additionally, they dropped over 442 tons of bombs on the enemy positions. Yet, the defenders continued to inflict heavy casualties on the Allied attackers. World War I, World War II, Korea, and Vietnam, as well as recent experiments in this regard, clearly illustrate instances referred to by General Frederick J. Kroesen,

> ...(instances) of infantry units not only surviving massed enemy artillery bombardment, but also stubbornly holding their positions against combined air, tank and artillery attacks, yielding their positions only when forced out by opposing infantry at close quarters.[25]

## Mobility/Countermobility/Survivability

The single most important task for organic engineers participating as a part of a stay-behind force is to enhance the survivability of the division. The normal contingent of corps engineer assets will concentrate on countermobility operations in the CFA by preparing obstacles and positions for the ACR within the CFA. The engineers will institute the CFA obstacle plan in consonance with the ACR commander's plan for the conduct of the covering force battle. However, they must also ensure its coordination with the ID(L) commander.

Divisional engineers must accomplish their survivability missions using heavy equipment during the Preparation Phase of the operations by

assisting in preparing some critical "hides" and cache sites. The Small Emplacement Excavators (SEE) and the M9 Armored Combat Earthmovers (ACE) organic to the ID(L) will be instrumental in the accomplishment of this mission. If these are unavailable due to their being left behind during deployment from CONUS, locally procured engineer assets such as back-hoes and bulldozers will all help.

One problem with using heavy equipment to prepare emplacements for the light infantry is its possible compromise of the role the light infantry will play in the defense. Extensive digging by heavy equipment will greatly disturb the terrain, and could significantly increase the vulnerability of positions by visual observation or IR detection. Deception will play an important role in the success of a stay-behind force, therefore use of heavy equipment for the preparation of these positions must be discreet. It is possible that night will be the only period in which this support can be used.

Obstacles capable of activation by the stay-behind forces subsequent to the lead echelon's passage must also be prepared at this time. These will be in the form of abatis, command directed minefield, etc.

Sappers will play a key role in the stay-behind force. General Richard Simpkin's "Hammer-Anvil-and Net" concept, which is very similar to the concept discussed in this monograph, calls for an engineer squad in each platoon position.[26] Although engineers in this number are certainly not available in the American Army, each company in the stay-behind force must have at least an engineer squad attached to it. This squad would assist in the preparation of protective minefields, abatis in restrictive terrain, and other light engineer tasks.

In addition to dedicated engineers at company level, soldiers of light infantry units must train extensively in engineer tasks. Light infantry units currently conduct this training, and must continue to do so. The most important of these tasks are the use of demolitions and field expedients for obstacles, and the use of pioneer tools.[27] The most abundant tank killer available to the light infantryman in Europe is the anti-tank mine. Therefore, the light infantryman must train thoroughly in their use, and anti-tank mines must be available in large numbers in the cache locations.[28]

Minefields emplaced by hand by light infantry stay-behind forces are certain to be hastily laid, harassment type fields. As such, corps must fully coordinate counterattacks into the stay-behind force's area of operations to ensure the availability of "mine free" areas along the projected counterattack routes.

As mentioned earlier under fire support considerations, scatterable mines will also enhance the operations of the division in a stay-behind role. Whether delivered by field artillery, army aviation, or the Air Force (GATOR), scatterable mines pose a problem to the Soviet advance which they have yet to solve.[29] Stay-behind forces can solve many of the coordination problems with scatterable mines by providing direct observation of the impact area, and accurately directing corrections to the FDC or pilot of the delivering aircraft. The light infantry can also ensure that the insertion of the mines is timely by eliminating the guess work concerning the exact location of the enemy in relation to the projected minefield.

Another use of scatterable minefields by the stay-behind force would be to use them to re-seed already breached obstacles. This would take

advantage of already completed friendly engineer efforts, and maximize the use of the mines.

## Air Defense Artillery

The most effective means of protection from enemy air attack for a light infantry division conducting a stay-behind operation is through passive measures. Superior cover and concealment, and dispersion will be his greatest protection against enemy air attack, thus presenting few targets for enemy air attack. The corps CFA will of course be under the existing Hawk coverage of the corps. The corps could thicken the air defense umbrella over the CFA by moving some of its Chaparral assets forward within range of the CFA. Although Stingers must be present in the stay-behind area of operations, engagements by the infantry division with Stinger or Vulcan assets from within the CFA will increase the possibility of compromising the location of these assets. Therefore, stay-behind forces should only use them when their position is under direct air attack.

## Command and Control

A primary reason for employing a light infantry division as the stay-behind force in the CFA is to enhance the command and control over the operation. By employing a unit with its accustomed command and control structure, the element controlling the stay-behind operation will better understand the capabilities and limitations of the subordinate elements. Additionally, there will be a single command and control headquarters responsible to the corps headquarters for the stay-behind operation and for possible coordination for assistance with a corps or Army Group counter-attack forward of the FEBA.

Division will centralize planning for a division-level stay-behind operation, while it will decentralize the execution of such an operation. Today's leadership may find this level of decentralization risky, however, it is essential to the success of stay-behind missions and consistent with the capabilities of the ID(L). As discussed earlier, TAOR's must be designated down to company or even platoon level. If the soldiers of the ID(L) are trained to "act independently within the framework of the higher commander's intent,"[30] they can achieve results such as those achieved by General Erich Ludendorff in World War I with his storm group tactics against the British.

> Though General Erich Ludendorff considered it risky business to decentralize so far, he took the chance and, as history records, his confidence in low-level leadership proved well-placed. Giving the power of maneuver and tactical initiative to the smallest groups was, in fact, a progressive step in keeping with the new face of battle that more and more took on the form of a series of local actions.[31]

The non-linear battlefield of the future will certainly call for a decentralization of control to the lower echelons of command. The close terrain in which light infantry operates effectively, and especially the conduct of stay-behind operations in this terrain, demands decentralization. Most actions will occur at the platoon level, many as low as team and squad level.

A clear articulation of the commander's intent and a succinct concept of the operation will be critical to the success of the stay-behind operation. Items the commander must include in his concept are: the purpose of the stay-behind operation; his target priorities; his and the corps' Priority Intelligence Requirements (PIR); the ID(L)'s role in the CFA battle while the heavy covering force is operating in the area; the point at

which offensive actions against enemy rear-echelon and second-echelon forces will begin; conditions under which daylight direct fire engagements will occur (i.e. engagements which are likely to reveal the location of the defenders); other possible rules of engagement; the ID(L)'s role in any corps counterattacks or contingency plans; and the projected length of stay in the CFA prior to link-up, extraction, or possible breakout, as well as a credible concept for each of these operations.

The actual element controlling the stay-behind operation will be a small dismounted Tactical Command Post (CP). Key members of the tactical CP are the division commander, the G3 or his primary assistant, representatives from the division G2, a fire support element, an air liaison officer, and an air defense element. The ID(L) main command post will be located in the corps MBA.

Stay-behind operations will strain the communications systems of the ID(L). Communications Security (COMSEC) requirements when operating in the enemy rear area are highly demanding. Only through a highly detailed, centralized plan at each level will subordinate leaders operate effectively without constant communication with their higher headquarters.

Restricted radio use must be the standard operating procedure during stay-behind operations. During operations as a stay-behind force in Korea during TEAM SPIRIT 1985, members of the 3d Battalion, 32d Infantry operated for five days under extremely stringent communications procedures.

> In order to minimize radio traffic, these operations were highly decentralized, and conducted essentially at the independent discretion of company commanders. Once in their hide positions, 3-32d Infantry units practiced strict operational security, remaining hidden by day and operating almost entirely by night. Communications security was particularly stringent. To conserve VINSON batteries and avoid detection by Orange Force electronic monitoring assets, 3-32d Infantry kept their radios off except

> for designated checks. Even these checks were passive: at eight designated times per day, radios (at all echelons) were turned on in Red mode to listen for any traffic from battalion.[32]

Due to the importance of reporting intelligence to higher headquarters and calling for fire support, radio listening silence will not be possible for an ID(L) in a stay-behind role as envisioned in this study. However, subordinate leaders must maintain strict discipline over all nets to ensure good COMSEC. Position reporting, fire requests, and spot reports should constitute most of the communications. Precise direction of the operation will be unnecessary. Additionally, the use of operations codes, directional antennas, organic high frequency radios and tactical satellite communications capability, and even use of the Bundespost telephone system, if still functioning, will enhance the security of a stay-behind force. Emerging digital burst transmission technology will also increase the COMSEC capability of a stay-behind force.

## Combat Service Support

Combat service support (CSS) considerations for a light infantry division in a stay-behind role are considerable but not insurmountable. Anticipation and detailed planning will alleviate most logistical difficulties. Logistical resupply and medical evacuation are two critical CSS problems requiring detailed centralized planning by the division. Prior planning must be emphasized since once the ID(L) begins its stay-behind operation, any forward movement of supplies or evacuation of casualties could likely compromise friendly positions.

Much of the ID(L)'s "lightness" is due to its austere CSS. As a result, light infantry will depend on host nation support (HNS) for logistical support and transport, and on the "scavenger/forager mentality" of

the light infantryman to acquire supplies.[23] A light infantry POMCUS[24] configured for operations in the mid- to high-intensity European environment similar to that already proposed by the Army could also enhance the rapid deployability and utility of an ID(L) in Europe.[25]

Resupply: The Army designed the light infantry division to be self-sufficient for a period of only forty-eight hours. The most viable means of extending the division's ability to operate independently in the enemy's rear for an indefinite period of time is through a system of logistical resupply based on cache of supplies. However, once it consumes its stocks, the ID(L), much like an airborne force dropped behind enemy lines, will need to conduct a link-up with other friendly forces capable of providing resupply or securing their area of operation. In the case of stay-behind forces in the CFA, this link-up may be conducted through an exfiltration by the ID(L), or preferably by a major counterattack by the ID(L)'s higher headquarters to regain the area forward of the original FEBA.

The division would stock all caches with drinking water, Class I (Meals, Ready to Eat [MREs]), Class II (especially batteries and bombing beacons), limited Class III (especially for heat during cold weather), Class V (demolitions, grenades, small arms, anti-tank rounds, mortar ammunition, and mines), and Class VIII (medical). Designated caches might also contain limited stocks Class IV (barrier materials), and Class IX items (repair parts and components, especially for small arms and radios).

The stay-behind force must plan its caches in advance. It is not simply a matter of dumping supplies in a designated position. During the preparation phase of the stay-behind operation, caches will have to be dug-in and provided overhead cover, or possibly placed within buildings to

ensure the survivability of the supplies. The stay-behind force must provide security for the caches so the enemy does not capture the stocks. Placing caches in the general vicinity of platoon "hides" will ease the security problem by precluding the necessity of diluting the fighting power of the division for security of supplies.

Aerial resupply is a viable option for limited resupply operations. However, aerial resupply could also compromise friendly positions. Any resupply by air must be accomplished during the hours of darkness, and preferably with systems which can be dropped at some distance and guided into the landing zone by remote control.

Medical: Medical concerns could top the list of problems for a stay-behind force. Soldiers must be confident in the fact that if wounded, they will receive prompt medical attention. Medical evacuation will be impossible except during hours of darkness, and even then will be extremely difficult.

During the preparatory phase, the stay-behind force must plan pick-up zones for aero-medical evacuation, but these would entail extremely difficult cross-FEBA extractions. Medical treatment must occur within the CFA. The first line of defense is increased training in first aid and life saving techniques at the individual and "buddy" level.

> The soldiers in the maneuver battalions must be proficient in emergency medical treatment to include treating advanced trauma, triage, and administering basic IVs (all troops should carry at least a pint of saline solution for themselves or a buddy).[36]

Defending battalions must assign aid men to each rifle platoon. These medics should have received a more intensive level of training than medics in normal units. Their training needs to approach the levels provided to Special Forces medics. The succoring of casualties over a period of three

to four days or longer under extremely arduous conditions are their responsibility. Through corps augmentation of medical personnel, division could establish small treatment stations with doctors at battalion level within the CFA, but once again conditions will be primitive at best. Corps are normally allocated at least one Mobile Army Surgical Hospital (MASH) for each of its divisions. The ID(L) must tailor its MASH to reduce its size and place it in the CFA. The ID(L) could accomplish this by dividing the MASH into two small surgical teams, and place them in relatively central locations within the forward brigade TAOR's. Urban areas would probably be the best location for MASH operations.

Some ground exfiltration and aero-medical evacuation of casualties will certainly be possible, but limited. The bottom line is that casualties will receive only limited treatment until such time as link-up can be effected. Training and superior tactics are the only measures which will alleviate this problem.

Nuclear/Biological/Chemical

Positioning of the light infantry division provides the major elements of NBC protection for the stay-behind force. Dispersion and location in the enemy rear area are their greatest allies. An ID(L) conducting a stay-behind operation will disperse its subordinate elements throughout the CFA in positions rarely larger than platoon-size. This will make targeting extremely difficult for the Soviets, and if an element is hit, the force effected will be relatively small.

In a future conflict against NATO, Soviet first-echelon forces will attempt to "hug" NATO defending units to preclude NATO's use of chemical or nuclear munitions against their formations. We can do the same. Likewise,

the Soviets will be hesitant to use chemical or nuclear munitions against what they will identify as small infantry targets in their rear. After all, they will have to operate in these areas also, and the Soviet vehicles in their rear area are not equipped with the over-pressure systems which protect their assault forces.

## Human Factors

Many argue against the ability of the light infantryman employed in a stay-behind role to overcome "tank terror", and independently engage tanks. Many quote S.L.A. Marshall's thesis in Men Against Fire that very few of the fighting soldiers actually engage the enemy with their individual weapons. Yet, even Marshall felt that given proper emplacement of positions and weapons, training, and a weapon in which the soldier is confident, he will aggressively attack advancing tanks.[37] Marshall states,

> (once) in combat the infantryman has some small success with his weapon, his desire to use it will rise practically apace with his confidence, even under circumstances that are little inviting and may grow increasingly forbidding.[38]

History repeatedly supports Marshall's statement. In November 1939, the Soviet Army invaded Finland with an Army of over one million soldiers. The Finns faced the Soviets with an Army of but 300,000, eighty percent of which were reservists. Yet, although the Soviets eventually prevailed over the Finns through sheer weight of number, the Finns effectively stalled the Soviet advance through small unit actions and effective use of terrain.[39]

The 401st Glider Infantry of 1944 provides an example of the utility of light infantry in a stay-behind role. Facing tanks and infantry of the 15th Panzergrenadier Division, the men of the 401st did not engage the leading tanks. Rather, they allowed them to pass, engaging the trailing

infantry first. The tank destroyers subsequently opened-up on the rear of the advancing tanks, "scoring hit after hit; those that escaped to the north were subsequently finished of by bazooka fire from Company C, 502d Parachute Infantry."[40] According to S.L.A. Marshall, this action was,

> ...conspicuously one in which a body of foot fighters, heavily disadvantaged as to numbers and weapons, survived and succeeded by staying light on their feet. It was a victory won less by firepower than by tactics...the tactics of survival and not those of desperation. There (was) no frantic, over-powering urge to engage frontally despite the onrush of the threat.[41]

Many cite recent actions by infantrymen at the US Army's National Training Center to confirm their contention that single infantrymen will engage enemy tanks out of range and then withdraw prematurely. Actions such as those of the 401st should cause them to investigate the flaws in their training program rather than an unavoidable "tank terror" ingrained in the human psyche.[42]

The 1973 Arab-Israeli War provides further evidence "...that the one-man anti-armor weapon is still every bit as effective as were the first Panzerfausts in World War II." Egyptian infantrymen had unheard of success in destroying Israeli tanks with the long-range engagements of their Sagger missiles, and encountered surprising success with close-in engagements with the Soviet made RPG-7.[43]

> As to infantry, the defensive performance of both Egyptian and Syrian infantry demonstrated that well-dug-in infantry, in combined arms coordination with artillery and with tanks or (my emphasis) anti-tank weapons in support, can effectively oppose armored forces on almost any kind of terrain.[44]

## SUMMARY

Stay-behind operations are complex operations. It is the complexity of the operation which makes the employment of an entire light infantry

division as the stay-behind force a desireable proposition. There would be one command and control headquarters orchestrating all aspects of the stay-behind mission. Additionally, the division headquarters is the organization most familiar with the capabilities, limitations, and standard operating procedures (SOPs) of the subordinate units. This would reduce planning time, ensure that realistic missions are assigned, and help in the rapid accomplishment of the myriad tasks which need completion during the preparation phase of the operation.

An ID(L) conducting a stay-behind operation is a key intelligence gathering asset for the corps close battle. Their positioning allows them to monitor the advance of enemy forces throughout their area of operations, thus making the stay-behind force invaluable in the targeting of enemy forces as they approach the MBA.

Fire support coordination and logistical concerns top the list of problems the ID(L) must solve for a stay-behind operation to be effective, but they are not insurmountable. Through detailed prior planning and coordination of fire support measures, proper weapon selection, and appropriate command and support relationships, planners can solve the fire support problems. Solving these problems will lead to an even more effective fire support system since the stay-behind force will be able to provide real-time intelligence and targeting information as well as terminal guidance for "smart" munitions.

The ID(L) will only be able to operate independently as long as it can resupply its subordinate elements. Use of caches will extend this period, but they must be protected and secured. Aerial delivery of supplies can

augment caches, but this should be done sparingly as it may compromise the location of the stay-behind force.

The manner in which the division handles medical evacuation is instrumental in maintaining the soldiers' morale and their willingness to operate behind enemy lines. Although aero-medical evacuation and ground exfiltration of casualties will be available in small measure, minor injuries must be treated at individual and "buddy team" level. The task of sustaining the lives of more serious casualties will be accomplished by aid men and the division's surgeons in make-shift hospitals in the CFA.

The division will depend on corps air defense assets to provide coverage over the area as long as possible, but it will lean most heavily on passive air defense measures to protect them from enemy aviation. Corps engineer augmentation for the ID(L) in a stay-behind role will not exceed the normal requirements for any covering force operation. During the mission's execution, organic Sappers will be a key asset to the division, but the knowledge of individual infantrymen in the areas of mines, demolitions, and expedient obstacle construction will be equally important.

All of the factors mentioned above point to a highly decentralized, offensively oriented series of small unit actions tied together by a common thread of the commander's intent and concept of the operation. History has shown that the light infantryman can survive and operate effectively on the battlefield in Central Europe, despite claims to the contrary. When employed consistent with his capabilities, in terrain suitable to his unique tactics, the light infantryman will not only destroy enemy tanks, but will destroy them in numbers which far exceed his apparent capabilities. The same is true for the <u>disruptive</u> capability of the ID(L) in the enemy rear.

## SECTION 4

## EFFECTS OF STAY-BEHIND OPERATIONS

### GENERAL

The primary effect of the stay-behind force is to simultaneously disrupt the timing of the Soviet's attacking forces throughout the corps area of operations. In the Soviet view a "significant simultaneous disruption of the timing (my emphasis) of a major Pact operations in several locations in both forward and reserve Pact units could...seriously threaten the success of the overall initial operation."[45] Employing an ID(L) rather than a smaller organization as a stay-behind force ensures complete coverage of every portion of the CFA almost guaranteeing the desired "simultaneous disruption" of the enemy attack. This effect would reap dividends far in excess of the cost to the corps commander.

By disrupting the timing of the Soviet's attack, stay-behind forces can also disrupt the commitment of follow-on forces. Their action would negate the accuracy of the combat "norms" on which they base their courses of action. During the course of battle, plans based on faulty assumptions soon become invalid and counterproductive.

The ability to achieve a rapid advance resulting in a short war is currently a pre-condition for Soviet military efforts to conquer NATO. NATO anti-tank weaponry poses a serious threat to the Soviet's ability to achieve speed in the advance.[46] The use of Anti-Tank Guided Weapons (ATGW) and other tank-killing munitions by stay-behind forces would be integral to the success of the ID(L)'s operation. By their proper employment throughout the depth of the CFA, the stay-behind force would deny the Soviets their desired rate of advance.

Much of the terrain in western Europe is significantly more restrictive than the plains in which the Soviets do much of their large unit training. Urbanization, forestation, and compartmentalized terrain will all work to slow the Soviet advance.[47] As a result, smaller forces can interdict the massing and movement of large formations which the Soviets hope to achieve due simply to the nature of the terrain. The delay an ID(L) in a stay-behind role in the CFA can inflict will not only allow the heavy divisions within the MBA the opportunity to deal with Soviet echelons isolated from their follow-on force, but would also allow the corps commander to identify locations for counterattack, and provide time for him to maneuver forces into a position from which to attack the enemy.

A concomitant effect of stay-behind forces in the enemy's rear is its deleterious effect on the morale and physical condition of the enemy soldier, and the condition of his equipment. The threat of attack by stay-behind forces would force Soviet commanders to institute increased security measures. Increased security measures would deprive the enemy's mechanized infantry and armor soldiers of much needed sleep. Further, the threat of attack by small bands of light infantry, the incessant artillery bombardment and air attack the light infantry directs, and the increased security measures the Soviet commander imposes would distract the Soviets from their maintenance and resupply activities. "(A) synergistic result (would) be manifest during the next day's combat in the enemy's diminished energy and alertness, as well as the deteriorated condition of his armored fighting vehicles."[48] (i.e. The <u>threat</u> of attack in the rear area will have almost as much effect as the attackers themselves.)

The performance of the men of the 2d Battalion, 112th Infantry at Vossenack during the Battle of Schmidt on 6 November 1944 illustrates this effect. After being pummelled for over eighty-four hours by observed artillery fire, the men of the battalion broke and ran before even receiving a ground attack.[49] The moral effect of the artillery broke their will to fight. Observed artillery bombardment directed by stay-behind forces would likely result in similar although not always as complete an effect on attacking Soviet forces in a modern war.

Increased security efforts by military forces will also normally result in a concentration of assets during halts for rest or resupply to ease security requirements. The end result of this concentration would be an increased vulnerability to sabotage, demolition, and harassment mining, as well as enhancing the effects of artillery and air attack when available. "Again, the indirect synergistic effects are likely to dwarf the direct, physical results achieved by the raiders (stay-behind forces) themselves."[50]

Although never a decisive operation in itself, stay-behind forces of light infantry can play an integral role in the ultimate defeat of the enemy. It can effectively create conditions for the enemy's subsequent defeat by MBA and corps reserve forces possessing greater inherent firepower and mobility than the light infantry.

## SOVIET REACTION TO STAY-BEHIND FORCES

The goal of Soviet armed forces in Europe is to launch a

> ...high-speed offensive very suddenly, with the aim of bringing about the rapid political collapse of their opponents and consequently a speedy end to the war. Speed will be the most significant feature of the next war....Soviet Strategy and tactics thus reflect the overriding political considerations--to wage war with

> only conventional weapons, and at all costs to accomplish the political collapse of the opponent in a very short space of time.[51]

As noted above, the Soviet assault would depend heavily on a speedy advance. An ID(L) conducting a stay-behind operation in the enemy's rear would deprive him of that speed, thus creating the conditions for a NATO corps to defeat the Soviet attack in that area. C.N. Donnely points to three problems facing the Soviet commander in achieving speed. They are:

> ...reconnaissance of the enemy defenses both before and during the battle; skillful, timely and effective use of all available means so as to destroy the defenders' weapons both before and during the attack; and, lastly, the correct choice of tactics.[52]

Soviet reconnaissance efforts will focus their priority of effort on locating anti-tank defenses.[53] Soviet writings contend that unless they accurately locate and destroy NATO's anti-tank defenses their attack is doomed to failure. However, the ability of stay-behind forces to disperse and conceal themselves make the location of the light infantry's positions extremely difficult. The Soviets are unlikely to successfully counter a stay-behind operation except by slowing their advance to unacceptable levels.

The second reaction the Soviets would likely make if they suspected engagement by stay-behind forces would be to detach infantry heavy forces to search for, and either fix or destroy the defenders. The characteristically inflexible command and control system normally associated with Soviet offensive operations will make control of these forces difficult. Additionally, by committing forces against the stay-behind force, the Soviets would have to divert much needed armor and infantry forces from the attack of the MBA.

Should the Soviets locate stay-behind positions they will first attempt to fix that force with artillery while assaulting it with tanks and mounted infantry. To prevent such an occurrence the light infantry forces will have vacated any position which may have been compromised and move to a predesignated alternate "hide". Although there will be instances where this is impossible, covering smoke and artillery fire, if available, directed by adjacent undiscovered "hides" should facilitate the withdrawal. In a "worst-case scenario", if the stay-behind forces are unable to break contact, the Soviets will continue to advance. If forced to do so by direct fire from the defenders, the assaulting Soviet infantrymen will dismount to sweep the objective. The dedication of Soviet artillery assets, armor, and infantry will all detract from the mass available at the MBA and slow the advance, which after all, is one of the purposes of the stay-behind operation.

Additional diversion of forces would occur when the Soviets continue to react to a rear area threat. Not only would Soviet forces be needed to find the light infantry, but even more would be required to secure their lines of communication (LOCs). As in any army, soft-skinned engineer, air defense, chemical defense, artillery, and logistical vehicles will clog their LOCs.[34] All are lucrative targets for a light infantryman capable of calling in indirect fires, air attack assets, and as a last resort engaging with direct fire weapons.

## SUMMARY

The operative word in any mission statement to a stay-behind force must be <u>disruption</u> of enemy operations. If a light infantry force conducting a stay-behind mission tries to <u>destroy</u> significant enemy formations,

they are certain to be discovered. Through a series of "hit-and-run" guerrilla operations in the enemy rear, the stay-behind force can inflict serious damage to enemy operations and yet survive quite well. Although stay-behind operations will probably never achieve a decisive victory alone, their disruption of Soviet command and control, fire support, logistics, engineer, and air defense operations can contribute immensely to establishing the conditions necessary for the heavy divisions to defeat the Soviet attack.

Stay behind forces present the enemy with a dilemma: either he can continue his rapid advance and suffer the accompanying attrition of forces and disruption of tempo certain to occur; or he can commit a large part of his force to clearing the stay-behind forces.[55] Either way, the stay-behind force has accomplished its mission. The comments made by Major S. A. El-Edroos of the Pakistani Army concerning the effects of infiltration on a defending enemy can be paraphrased to apply to the effect of stay-behind operations on an attacking enemy;

> (Stay-behind forces) have the same effect upon an enemy's attacking formations as has the incoming tide on a castle of sand. It works at the foundations, thereby ensuring complete collapse. Once the props are knocked away, the (coherence of the attack) is bound to crumble under its own weight.... This 'eating away process' is achieved by...concentrating the maximum force--in terms of (relative) firepower in the hands of suitably equipped troops at the soft spots in the (attacker's) formations.[56]

## SECTION 5

## CONCLUSIONS

Although probably best designed to operate in a low-intensity environment, the light division is uniquely qualified to participate in a mid- to high-intensity conflict in Central Europe. Today, light infantry is organized into divisional units. Therefore, it is important to investigate ways to employ the entire division, for this is how they train. They can defend highly compartmentalized, armor restrictive terrain within the MBA. They can also participate as a division in Army Group or corps rear operations. As a light infantry force, it brings with it certain limitations for its use, and these must be understood by the Army leadership. Despite its limitations, it also brings unique capabilities for operating in the enemy rear area to the heavy forces conducting a forward defense in Europe.

The proposition set forth in this paper has been to employ the division as a stay-behind force in the corps covering force area. This concept takes advantage of the synergistic effect that heavy and light forces can generate at the large unit level where the sum of the whole produces a greater effect than each of the parts. The light infantry division is the first headquarters that can adequately coordinate fires, direct the intelligence collection effort of the stay-behind force, and direct the peaks and lulls of stay-behind activity based on corps' requirements. The light infantry division can establish the preconditions for the decisive defeat of a Soviet attack at the MBA. It accomplishes this by interdicting all aspects of the Soviet's combat, combat support, and combat service support operations in their rear area. This will intensify the effects of friction

on the Soviet's advance, continually posing new and unexpected dilemmas to the Soviet Commander. The end result will be a time consuming delay in the advance of follow-on echelon forces and a serious disruption the entire Soviet attack in their sector. The Soviets claim that speed is the necessary prerequisite for a successful attack. Stay-behind forces in significant numbers, an entire division, will guarantee that the Soviets are denied the requisite speed for a successful offensive, and ensure the success of a NATO forward defense.

APPENDIX A

## APPENDIX A

### STAY-BEHIND OPERATIONAL SKETCHES

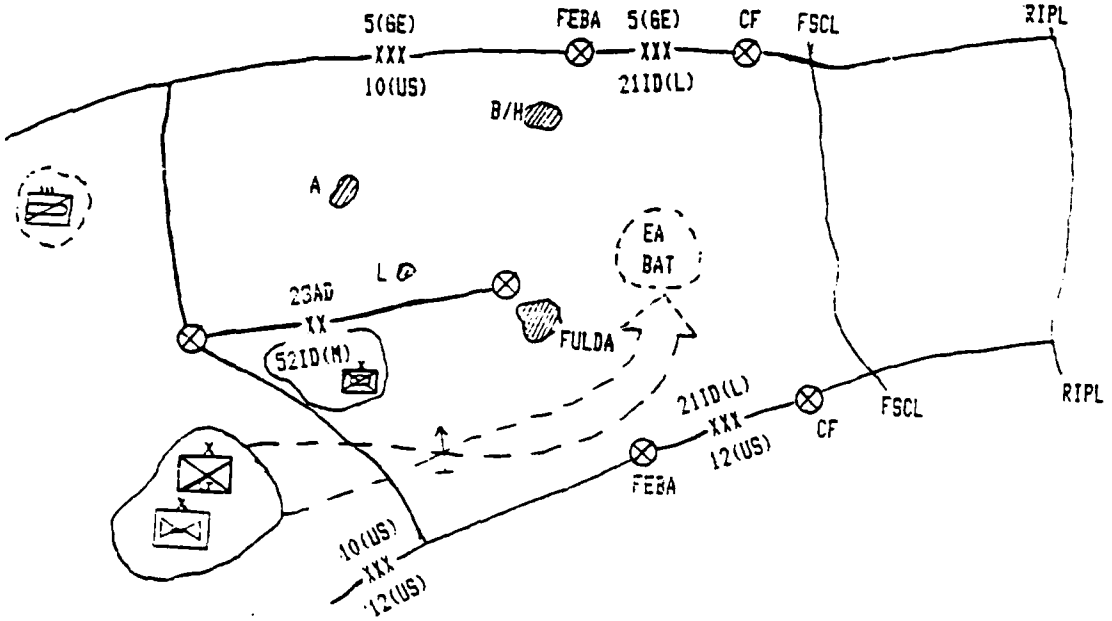



Figure 1: 10th (US) Corps Defensive Sector (TCTS)

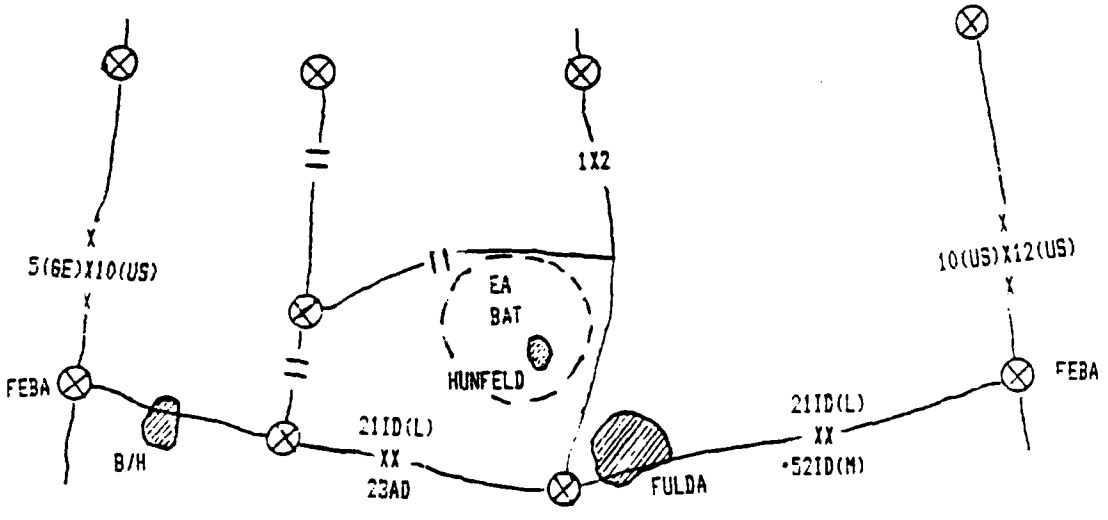



Figure 2: Sketch of 21st ID(L) Area of Operations

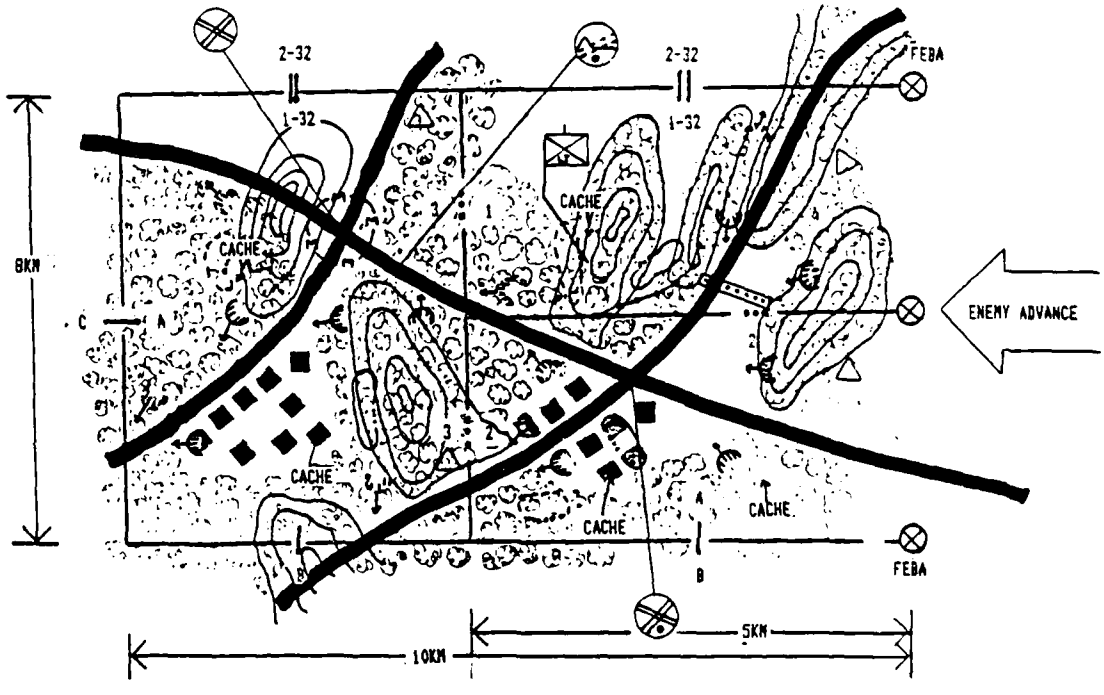


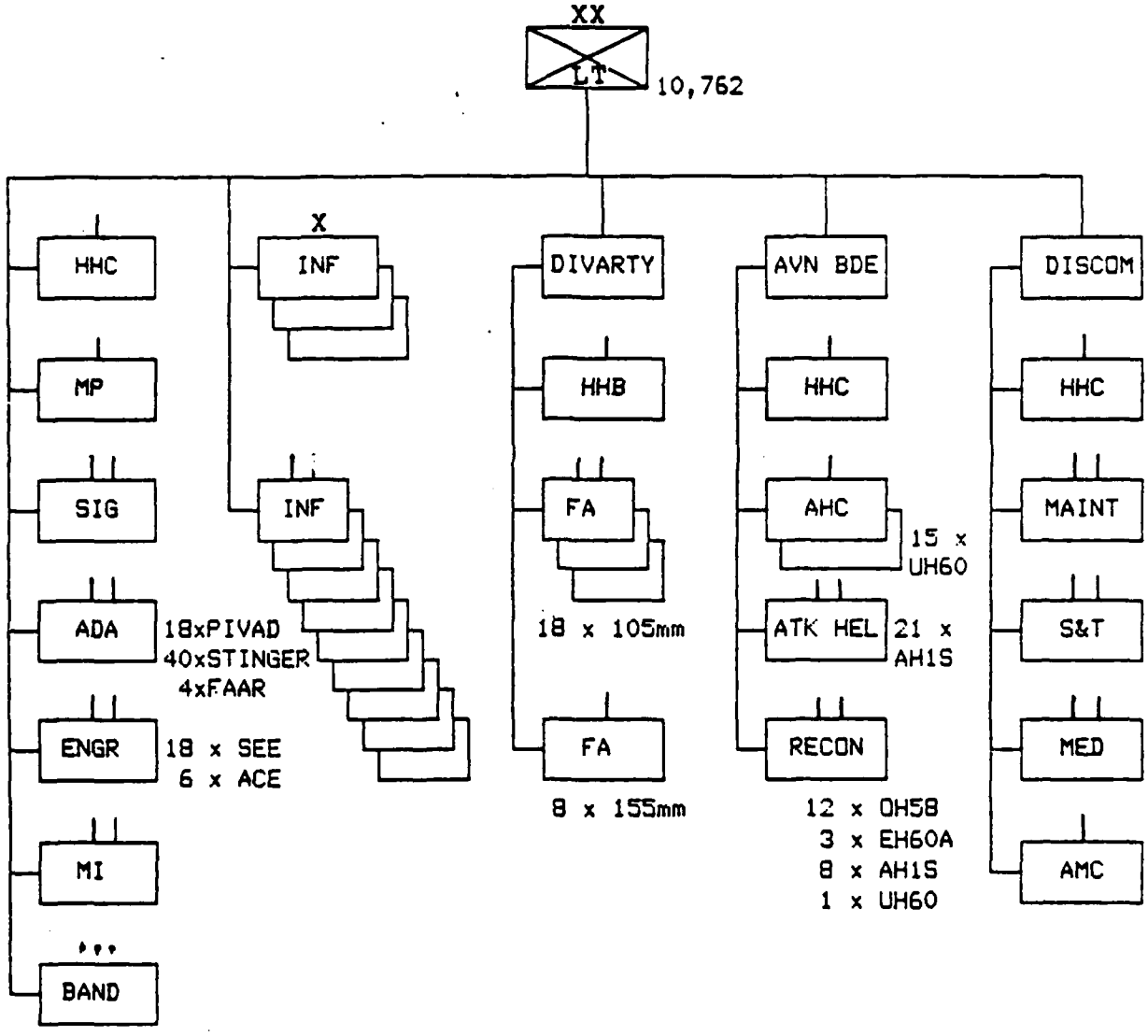

Figure 3: Sketch of a Typical Company TAOR

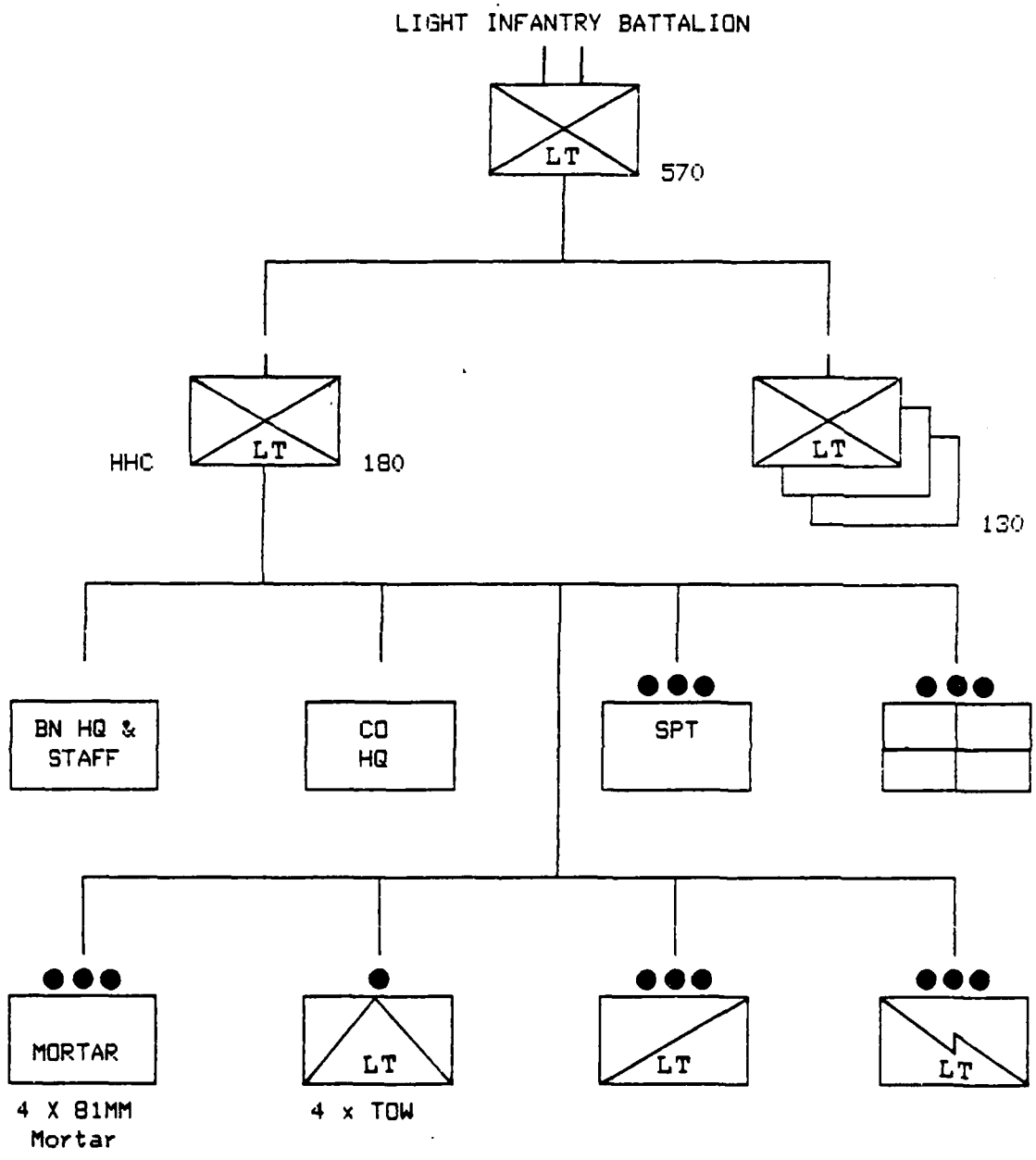
APPENDIX B

APPENDIX B

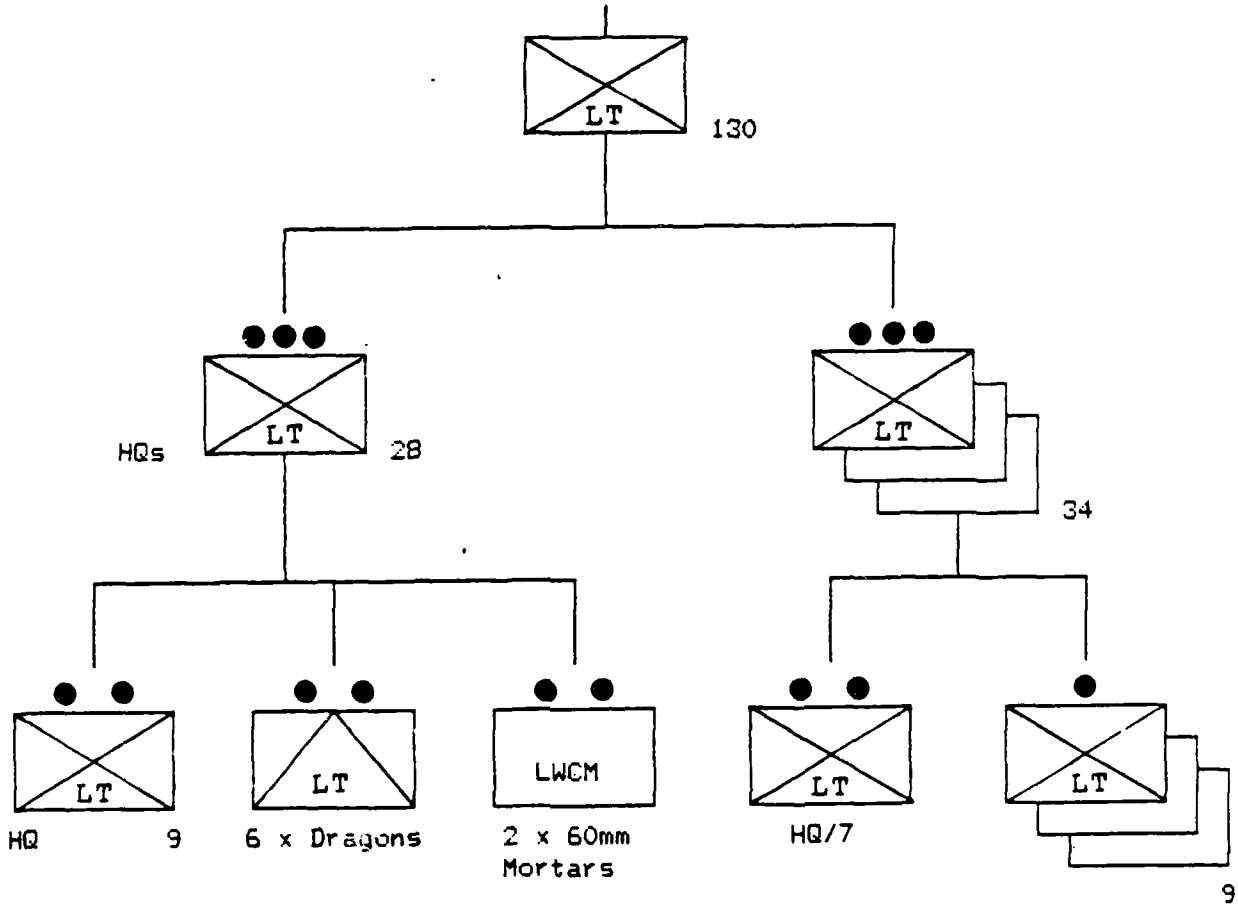
LIGHT INFANTRY ORGANIZATION[57]

LIGHT INFANTRY DIVISION




LIGHT INFANTRY BATTALION
LT
570
HHC
LT
180
LT
130
BN HQ &
STAFF
CO
HQ
SPT
MORTAR
4 X 81MM
Mortar
LT
4 x TOW
LT
LT

LIGHT INFANTRY COMPANY



APPENDIX C

## APPENDIX C

## NEW TECHNOLOGY ENHANCING STAY-BEHIND OPERATIONS

Emerging technological advances, and newly acquired weaponry in the realm of anti-tank warfare will further enhance the infantryman's ability to engage and destroy enemy armor, thus making his role as a stay-behind force ever more viable. The US Army has recently purchased the FFV/Honeywell AT-4 light anti-tank weapon which is touted as being a light anti-tank weapon (LAW) capable of defeating all main battle tanks in a frontal engagement at ranges of up to 300-500 meters.[58] In other developments of LAWs a West German arms manufacturer developed a prototype for an "anti-tank launcher of the throw-away type that was recoilless, flashless, smokeless, and almost silent, yet fired to 300 meters."[59] These, along with currently available claymore mines and other anti-intrusion type devices, would greatly enhance the "self-protection" capability of a stay-behind force against direct mounted and dismounted assault.

The Advanced Anti-tank Weapon System-Medium (AAWS-M) and AAWS-H (Heavy) will replace the Dragon and TOW weapon systems. Currently Fiber Optic Guided Missile (FOG-M) is thought to be the best technological system to support the development of these systems.[60] However, weapons such as the MILAN anti-tank guided missile systems are currently fielded munitions which would increase the infantryman's ability to engage and destroy enemy armor at extended ranges (two kilometers for MILAN).

Other infantry weapons development advances will also enhance the infantryman's ability to survive as a stay-behind force by giving him close-in protection against an infantry assault against his position. The newly

issued Squad Automatic Weapon (SAW) is light-weight (22 lbs) and has an effective range beyond eight hundred meters.[61] The SAW would give the modern infantryman a capability similar to that provided by the Browning Automatic Rifle (BAR) in World War II and the Korean War. The SAW and a proposed Close Assault Weapon (CAW)[62] would go far to increase the survivability of stay-behind forces if detected.

ENDNOTES

## ENDNOTES

1. John A. English, LTC, PPCLI. "Thinking About Light Infantry," Infantry (November-December 1984): p.25.

2. John A. Wickham, Jr., General, USA, Chief of Staff. White Paper 1984: Light Infantry Divisions (16 April 1984): p.1.

3. The Joint Chiefs of Staff. JCS Pub., 1, Department of Defense Dictionary of Military and Associated Terms (1 January 1986): p. 342.

4. "Final Report: Strategic Utility of US Light Divisions, (1 August 1985): p. 1.

5. US Army. FM 7-72, Light Infantry Battalion (March 1987): p. 4-49.

6. John G. Hines, and Phillip A. Petersen, "Is NATO Thinking Too Small? A Comparison of Command Structure," International Defense Review 19 (May 1986): pp. 571.

7. Hines, "Is NATO Thinking Too Small?": p. 571.

8. The devastating effects of stay-behind forces versus artillery installations is well illustrated by a historical example from the Korean War. In his article "Infiltactics," (Combat Forces Journal, February 1951, p. 18) LTC Thomas J. Badger recounts his experience of the effectiveness of stay-behind forces amongst American artillery formations. He recalled,

> One unit has had no infiltrators in the position area, and the only casualties suffered were from counterbattery fire believed to have been adjusted by a nearby observer. Another unit's first three casualties were the S-3, S-2, and another man in FDC, all of whom died from bayonet wounds.

9. Examples of stay-behind operations in twentieth century wars include: the defense of Tobruk, Libya by the 9th Australian Division in 1941; the halting of the advance of the Eighth (British) Corps by German stay-behind forces in July 1944 during Operation Goodwood; the use of stay-behind forces by both German and Russian force during World War II along the Eastern Front; the Chinese and North Korean's successful use of stay-behind forces against a vastly "superior" United Nations force during the Korean War; and the somewhat less spectacular, but nevertheless effective, use of stay-behind forces by the North Vietnamese and Viet Cong during the Vietnam war.

10. Current estimates call for a period of four days to deploy the entire ID(L) to Central Europe. Assuming that it would then need at least two more days to draw equipment and move to their area of operations, the ID(L) would not arrive in sector until six days after deployment began. Therefore, a period of at least eight to ten days from the beginning of

deployment are necessary for the ID(L) to complete the Preparation Phase of a stay-behind operation. Without this time, such as may be the case if the Soviets are able to achieve total surprise, this mission would not be a viable one for the ID(L) at the outbreak of hostilities. Should a conflict in Europe continue for an extended period of time and the ID(L)'s are in the theater accomplishing other missions, this mission may become viable during many defensive scenarios as it would eliminate the time necessary for deployment. In short, the ID(L) requires a minimum of forty-eight hours to prepare its positions after occupying its area of operations.

11. The presence of armor restrictive terrain that is well suited for light infantry operations in Central Europe has been greatly underestimated in recent years. In his study, Battlefield Central Europe: Danger of Overreliance on Technology by the Armed Forces, General Uhle-Wettler discusses this matter in detail. He discusses the effect of terrain on military operations in Central Europe when he says:

"When we define firepower, we generally inquire as to caliber, rate of fire, maximum range and, in a number of weapons, the velocity and the flatness of the trajectory--and thereby we have already unconsciously initiated the preference for certain weapons....Firepower just like mobility is a terrain dependent value....In covered and broken terrain, mechanized forces can only utilize a fraction of their firepower and mobility potential. The still-usable fraction can be insufficient even to achieve superiority over foot soldiers. The more open the terrain becomes, the more the foot soldier falls back and the better can mechanized forces utilize their potential until, in completely open terrain, the foot soldier is hopelessly inferior." (pp. 26-27)

He goes on to discuss the nature of terrain in Central Europe:

"Just 30% of the Federal Republic is covered by forest and a good 10% is occupied by built-up areas and industrial zones....The combat ranges are short in forests and built-up areas--accordingly 40% of the terrain. These spaces further constrict the combat ranges for those weapons located in open terrain but having a covered area before them. This allows the estimate that very short firing ranges are to be anticipated in about 50% of the German terrain. Night, fog and fires on the battlefield will additionally shorten the remaining larger combat ranges. The statement that 80% of our combat ranges are of the range up to 2000m comes from an authoritative source but is in its terse brevity greatly in need of supplement....An investigation of the Military Geographical Office of the Bundeswehr arrives at even more pessimistic findings. According to them, the following 'line of sight distances' are to be anticipated:

| | |
|---|---|
| Above 2500m | 6% of all line of sight distances |
| Above 2000m | 10% of all line of sight distances |
| Above 1500m | 17% of all line of sight distances |
| Above 500m | 45% of all line of sight distances |
| Under 500m | 55% of all line of sight distances |

Evaluating these figures, it is to be noted that the Military Geographical Office had already excluded many areas of extremely short line of sight distance (Schwarzwalk, Harz, Ruhr Region) from the investigation. Above all, however, the Military Geographical Office computed only vision impediments owing to ground cover (built-up areas, industrial installations and forests.) Obstruction to vision owing to ground forms (mountains, hills, etc.) remained out of the question although the ground forms undoubtedly will generally shorten the possible line of sight distances. The actual lines of sight are accordingly even considerably shorter than the values provided in the table. War-conditioned factors as well as night and weather will reduce them still more." (pp.27-28)

In a discussion of the same subject, General Kroesen states:

"Another factor often cited by those advocating the supremacy of tanks, attack helicopters, artillery or air power is that the next war will be fought at long range with opponents rarely able to close to less than 1500m, well beyond the range of the infantryman's Dragon, Law and machine-gun. Well, if that war comes any time soon, the pundits are in for a rude awakening. We cannot hit what we cannot see and 14 hours of darkness in (Germany in) mid-winter, snow, rain, and the many days throughout the year when fog lasts until noon or even all day are limitations that today's weaponry cannot readily overcome. The same is true of our opponent's weapons. Those realities and the availability of tactical smoke generating devices in abundance lead me to believe that the next war will be won or lost at the 300m range just as in the past." ("The Ultimate Weapon in War," RUSI Journal [Dec 80] p.63)

12. US Army. FM 34-1, Intelligence and Electronic Warfare Operations (31 August 1984): p. 2-12.

13. FM 100-5 (1986): p. 12.

14. Steven L. Canby. "Light Infantry in Perspective," Infantry (July-August 1984): p. 30.

15. Canby, "Light Infantry in Perspective": p. 31.

16. Fire support planners should designate the area of platoon "hides" as RFA's rather than NFA's. The RFA's should restrict designated fuze and shell combinations. This permits the stay-behind elements to call fire directly on top of their position to provide close-in protection if necessary. NFA's would not allow this option. Variable time fuzes and 8" ICM (not DPICM) would be the munition of choice.

17. "AFATDS is the fire support element of the Army's new command and control system (ACCS). The other systems comprising the ACCS are the maneuver, intelligence and electronic warfare, air defense, and combat service support. AFATDS will provide "fully automated support for planning, coordination and control of all fire support assets in the execution of close support counterfire, interdiction and suppression of enemy air defenses. As a battle management system in the overall ACCS architecture,

AFATDS will support deep operations, nuclear and nonnuclear, and chemical fire planning and the coordination of the employment of all service and allied fire support assets to complement the commander's scheme of maneuver. AFATDS will implement detailed commander's guidance in the automation of operational planning, movement control, targeting, target value analysis and fire support planning and execution. ("Army Weaponry and Equipment," Army 37 (October 1987): p.356-357.

18. "PJH is a hybrid integration of two systems--the position location and reporting system (PLRS) and the joint tactical information distribution system (JTIDS). Both are data radios. It will not only distribute data among automated command, control, communications, and intelligence systems (such as AFATDS), but also provide position and navigation information for systems and command and control users. Our (Field Artillery Branch) Azimuth envisions the enhanced PLRS user unit (EPUU) as the primary data radio for both existing and proposed field artillery data devices. The EPUU is a man-portable or vehicular-mounted communications device with a built-in radio which provides a jam-resistant data communications medium." ("The Azimuth of the Field Artillery," Field Artillery Journal 54 [November-December 1986]: p. 23.)

19. A light hand-held version of the GLLD ( the Modular Universal Laser Equipment [MULE]) has been developed for the United States Marine Corps. Its size and weight would make it much more compatible with the needs of light infantry.

20. Future "sense and destroy armor munitions," and some cluster weapons now on hand, remove the need for "lasing."

21. Gregory C. Gardner, MAJ, USA, "A Concept for the Tactical Employment of Light Infantry in Central Europe (SAMS Monograph, USA CGSC, 1986): p. 14.

22. Robert G. Chaudrue, LTC, USA. "Requiem for the Infantry," Infantry (May-June 1978): p. 29.

23. Soviet norms for destruction of an anti-tank strongpoint are listed below. The Soviet Army estimates that a NATO platoon strongpoint will cover from three to eight hectare (100m X 100m). They further estimate that one artillery battalion will be able to engage at most two strongpoints simultaneously. The norms listed below are for "ranges of up to ten kilometers; over that, 0.1 of the norm is added for every extra kilometer. If the Soviet gunners can maintain a rate of three rounds per minute, this means a barrage of fifteen minutes if there is one artillery battalion of eight 122mm howitzers to fire on each strongpoint." (Donnelly, "Soviet Tactics for Overcoming NATO Anti-Tank Defenses,": p. 1103)

| | Guns & Howitzers | | | | Mortars | | | MLRS | |
|---|---|---|---|---|---|---|---|---|---|
| | 122mm | 130mm | 152mm | 203mm | 120mm | 160mm | 240mm | <140mm | >140mm |
| Expenditure on a carefully prepared defense (# of rnds) | 200 | 200 | 150 | 60 | 200 | 100 | 50 | 320 | 100 |
| Expenditure on a hasty defense (# of rnds) | 150 | 150 | 110 | 45 | 140 | 85 | 45 | 240 | 80 |

24. Gates. "Western Light Forces and Defence Planning, 1. Some Parallels from the Past,": pp. 46-47.

25. Frederick J. Kroesen, General, USA. "The Ultimate Weapon in War," RUSI Journal (December 1980): pp. 63.

26. Richard E. Simpkin, BG (Retd), OBE, MC. "Men Against Tanks," The Mechanized Battlefield: A Tactical Analysis. John A. English, LTC, PPCLI, J. Addicott, MAJ, and P.J. Kramers, editors. McLean VA: Pergamon-Brassey's International Defense Publishers (1985): p. 144.

27. Wayne A. Downing, BG, USA. "Light Infantry Integration in Central Europe," Military Review LXVI (September 1986): p. 28.

28. Downing, "Light Infantry Integration": p. 26.

29. Donnelly. "Soviet Tactics for Overcoming NATO Anti-Tank Defenses": p. 1101.

30. FM 100-5 (1986): p. 15.

31. John A. English, LTC, PPCLI. Fire, Wire, and Mire: An Examination of the Riddle of the Trenches in the Great War 1914-1918. (17 January 1985): p. 14.

32. Timothy A. Wray, MAJ, USA. "Memorandum for Commander, Combined Arms Training Activity; Subject: Trip Report (TEAM SPIRIT 1985, Republic of Korea." 5 April 1985.

33. Downing, "Light Infantry Integration": p. 29.

34. POMCUS: Pre-positioning of Materiel Configured to Unit Sets.

35. D.C. Isby, "The US Army's New Light Infantry Divisions," Jane's Military Review, ed. I.V. Hogg (London: Jane's Publishing Company Limited (1986): p. 105.

36. Downing, "Light Infantry Integration": p. 28.

37. "Infantry in the open and defending against armor on a fairly broad front, however weaponed, has relatively little tank stopping power in the moral sense unless supported by fire from artillery and by armor which is getting visible and partially decisive killing results....On the other hand, when enemy armor is moving into a defile, or advancing under any such conditions that the defenders can hit from the flank, centering fire on single targets without manifest danger of being taken in flank while so doing, well-trained infantry will accept the risk and will move aggressively to beat down the attack....It is equally true of defense amid hedgerows and sunken roads or in any terrain where armor is restricted to the road....Forested areas and other barriers naturally impassable by tanks also provide moral stiffening to the infantry defense...In sum, the requisite condition is this--that in the mind of the infantryman using the weapon on the ground it must seem reasonably apparent that at hand there is effective cover, that he has an advantaged position over the enemy armor, whether that position puts him on the flank of his target or prevents the armor from directly sighting on him. Then he will likely fight his weapon....." (S.L.A. Marshall, BG, USA. "Man Against Armor," Armor LXXXIX (January-February 1980): pp. 30-31.

38. Marshall, "Man Against Armor": p. 31.

39. At the Battle of Suomussalmi in December 1939, Finnish light infantry supported by heavy units, destroyed two enemy divisions which included a motorized formation. Soviet losses amounted to 27,500 killed, 1300 soldiers taken prisoner, fifty tanks destroyed, and a total loss of all equipment and vehicles. Finnish losses were nine hundred killed and 1770 wounded. At the conclusion of its Finnish campaign, the Soviet Army had sustained over 200,000 men killed in action, and 400,000 wounded, plus an enormous loss of equipment. This compared to the 68,000 casualties the Finns sustained.(Gates. "Western Light Forces and Defence Planning, 1. Some Parallels from the Past": p. 40.)

40. John A. English, LTC, PPCLI. A Historical Perspective on Antiarmor: p. 14.

41. Marshall, "Man Against Armor": p. 34.

42. German infantry training during World War II stressed the idea that "...the 'best field of fire...(was) not the longest but the most cunning.' The key was obviously surprise effected by troops well conditioned to withstand the psychological shock of armor." (English, A Historical Perspective on Antiarmor: p. 16.) The result of this training is displayed by the awarding of over 10,000 "tank destruction" badges to soldiers who had individually attacked and destroyed single Soviet tanks on the Eastern Front.

43. John Weeks. Men Against Tanks. (1975): p. 185.

44. Trevor N. Dupuy, Colonel, USA, Ret. Elusive Victory: The Arab-Israeli Wars, 1947-1974 (1984): p. 595.

45. Hines, "Is NATO Thinking Too Small?": p. 571.

46. "Second to nuclear weapons, the Soviets believe NATOs anti-tank guided weapons (ATGW) provide the best defense against their armored forces. If those ATGW were manned and in position, deployed in high density throughout the tactical depth, the Soviets recognize that their speed of advance would be drastically reduced, probably to below that necessary to guarantee the strategic success of their attack." (Frederick Hogarth. "Dynamic Density: A Deterrent for the OMG," RUSI Journal 132 [June 1987]: p. 31.)

47. General Uhle-Wettler's Battlefield Central Europe: Danger of Over-reliance on Technology by the Armed Force provides an excellent terrain analysis of Central Europe. He presents a strong case for the use of light infantry in Central Europe and uses the effects of terrain to support many of his arguments.

48. "Final Report: Strategic Utility of US Light Divisions, A Systematic Evaluation." Contract No. DABT69-84-C-0099 (1 August 1985): p. 13.

49. Interview, Major Thomas M. McGinnis, 26 October 1987, School of Advanced Military Studies, Fort Leavenworth, Kansas.

50. "Final Report: Strategic Utility of US Light Divisions" (1 August 1985): p. 13.

51. C.N. Donnelly. "Soviet Tactics for Overcoming NATO Anti-Tank Defenses," International Defense Review 12 (7/1979): p. 1099.

52. Donnelly. "Soviet Tactics for Overcoming NATO Anti-Tank Defenses,": p. 1100.

53. Donnelly. "Soviet Tactics for Overcoming NATO Anti-Tank Defenses.": p. 1100.

54. Malcolm Allen. "Combining NATO's Integrated Area Anti-Tank Defence," Jane's Defence Weekly (20 July 1985): p. 141.

55. Sir William Scotter, General, British Army. "A Role for Non-Mechanized Infantry," RUSI Journal (December 1980): pp. 62.

This is not a new problem for military forces. In David Gates' study, "Western Light Forces and Defence Planning, 1. Some Parallels from the Past," he recounts the comments of General J. Money concerning the development of British light infantry and the effect of their operations in Flanders in 1794:

> Our operations were there carried....into an open country near Cambray; the enemy then....saw that their Irregulars (light

infantry), with which their army abounded, were useless, and would continue so unless they could force us to make war in an enclosed country; and this they effected, by obliging us to return into Flanders to protect our magazines, and cover our communication with them: here the country is much enclosed, and here all their Irregulars could act. From that hour we were constantly losing ground....and in the short space of a few weeks, it may be said in a few days, those armies that had been acting offensively, were actually obliged to act defensively...

The same fate of diverting huge resources to securing the rear area befell the American Army in Vietnam, the Egyptian Army in Yemen, and the Israeli Army in Lebanon. (David Eshel, LTC, IDF [Ret.]. "The U.S. Army Light Division, Right or Wrong?," National Defense LXXI [May-June 1987]: pp. 55.

56. S. A. El-Edroos, Major, Pakistan Army. "Infiltration," Military Review (Date unknown) From the private collection of LTC John A. English: pp. 35.

57. 7th Infantry Division (Light) Capabilities Book (15 June 1987).

58. Donald R. Kennedy, "The Infantryman vs. the MBT," National Defense (March 1985): p. 33.

Kennedy further describes the characteristics of modern light anti-tank weaponry on page 29 of the above cited article.

| Name: | M72A2 | FFV AT4 | RPG-7V |
|---|---|---|---|
| Weight (kg): | 2.36 | 6.35 | 7 |
| Length: | 655/893 | 1000 | 990/1360 |
| Caliber (mm): | 66 | 84 | 85 |
| Max. Vel (m/sec): | 145 | 290 | 300 |
| Eff Range (m): | 200 | 300-500 | 500 |
| Armor Pen (mm) | 300+ | 395-450 | 320 |

59. Weeks, Men Against Tanks: p. 186.

60. Fred Reed. "FOG-M Will Redefine War Strategies," The Leavenworth Times (7 October 1987): p. unk. Reed describes FOG-M as an "...anti-tank missile with the television camera in its nose, the picture being transmitted over a thin glass fiber to a television camera in its nose, the picture being transmitted over a thin glass fiber to a television screen at the launcher as the missile flies, where the gunner guides it to the target. The range is about six miles. About a dozen FOG-Ms would be carried in a vertical launch trailer behind a truck, with the gunner and driver, who is also trained as a gunner, each having control screens. The gunner punches map coordinates into the computer, watches his screen until the target comes into sight, and rams it."

61. Lon O. Nordeen. "Today's Infantryman," National Defense LXX (January 1986): p. 38.

62. Nordeen, "Today's Infantryman": p. 40. The CAW is a combat shotgun capable of "...semi-automatic or fully automatic firing modes, (it would) be easy to aim and fire and use(s) a detachable clip-type magazine." Types of ammunition available would include buckshot, finned flechette rounds, white phosphorous, flares, tear gas, and special anti-armor rounds. One prototype weighs about 9 pounds empty and utilizes a 12 round box ammunition.

# BIBLIOGRAPHY

# BIBLIOGRAPHY


## 1. Manuscripts

English, John A., Lieutenant Colonel, PPCLI. A Historical Perspective on Antiarmor. Not Dated.

_____. New Doctrines for Infantry. To be published in Proceedings, August 1987; Speech in Fall 1986, to Canadian Institute of Strategic Studies.

_____. Fire, Wire, and Mire: An Examination of the Riddle of the Trenches in the Great War 1914-1918. 17 January 1985.

## 2. Letters, Interviews and Oral Histories

Holder, L.D., Colonel, USA, Director School of Advanced Military Studies. Memorandum to MG Sullivan, Deputy Commandant US Army Command & General Staff College, dtd 13 October 1987. Subject: Soviet Artillery Norms.

McGinnis, Thomas M., Major, USA. Interview, 26 October 1987, School of Advanced Military Studies, Fort Leavenworth, Kansas.

Plummer, Michael T., Colonel, USA. "Celtic Cross IV After Action Report." 2 October 1986.

Wray, Timothy A., Major, USA. "Memorandum for Commander, Combined Arms Training Activity; Subject: Trip Report (TEAM SPIRIT 1985, Republic of Korea." 5 April 1985.

## 3. Newspapers and Magazines

Adams, John A. "Heavy versus Light Forces: A Middle Ground," Military Review LXVI (October 1986): pp. 64-73.

Alfoldi, Laszlo M., Dr. "The Hutier Legend," Parameters Vol. V, No. 2 (1976): pp. 69-74.

Allen, Malcolm. "Combining NATO's Integrated Area Anti-Tank Defence," Jane's Defence Weekly (20 July 1985): pp. 139-142.

"Army Weaponry and Equipment," Army 37 (October 1987): pp. 292-440.

"The Azimuth of the Field Artillery," Field Artillery Journal 54 (November-December 1986): pp. 18-24.

Badger, Thomas J., Lieutenant Colonel. "Infiltactics," Combat Forces Journal (February 1951): pp. 16-19.

Bahnsen, John C. "Doc", Jr., Brigadier General, USA. "The Kaleidoscopic US Army," Armed Forces Journal International (November 1985): pp. 78-88.

Baxter, George D. "Tactical Infiltration," Infantry (May-June 1981): pp. 18-23.

Besch, Edwin W. "Are Our Light Divisions Too Light?" Army (February 1985): 42-48.

Bradford, David G., Major, USAF. "Light Infantry," Infantry (July-August 1986): pp. 22-28.

Brugmann, G., Brigadier General, Army of the Federal Republic of Germany. "Setting the Scene--The European Battlefield," RUSI Journal (December 1980): pp. 56-59.

_____. "The German View of the Role of Infantry on the Battlefield," RUSI Journal (December 1980): pp. 67-69.

Canby, Steven L. "Light Infantry in Perspective," Infantry (July-August 1984): pp. 28-31.

Chaudrue, Robert G., Lieutenant Colonel, USA. "Requiem for the Infantry," Infantry (May-June 1978): pp. 28-31.

Coleman, William S., Lieutanant Colonel, USA. "Infiltration...," (Periodical and date unknown.) From the private collection of LTC John A. English: pp. 12-21.

Clarkson, J.M.E., Colonel. "Spark at Yom Kippur: Many Surprises in an 18 Day War," Canadian Defence Quarterly 3 (Spring 1974): pp. 9-22.

Crowell, Howard G., Major General, USA and Jared L. Bates, LTC, USA. "Heavy-Light Connection: Division," Infantry (July-August 1984): pp. 15-18.

DePuy, William E., General, USA. "The Light Infantry: Indispensable Element of a Balanced Force," Army (June 1985): pp. 26-41.

Donnelly, C.N. "Operations in the Enemy Rear," Infantry (March-April 1981): pp. 24-28 (reprint from International Defense Review, 1/1980).

_____. "Operations in the Enemy Rear, Part 2" Infantry (May-June 1981): pp. 29-35 (reprint from International Defense Review, 1/1980).

_____. "Soviet Tactics for Overcoming NATO Anti-Tank Defenses," International Defense Review 12 (7/1979): pp. 1099-1106.

Downing, Wayne A., Brigadier General, USA. "Light Infantry Integration in Central Europe," Military Review LXVI (September 1986): pp. 18-29.

El-Edroos, S. A., Major, Pakistan Army. "Infiltration," Military Review (Date unknown.) From the private collection of LTC John A. English: pp. 32-38.

English, John A., Lieutenant Colonel, PPCLI. "Thinking About Light Infantry," Infantry (November-December 1984): pp. 19-25.

Eshel, David, Lieutenant Colonel, IDF (Ret.). "The U.S. Army Light Division, Right or Wrong?," National Defense LXXI (May-June 1987): pp. 51-64.

Galvin, Jack, Major General, USA. "The Heavy/Light Concept," Armed Forces Journal (July 1982): pp. 67-80.

Galvin, John R., Lieutenant General, USA. "Heavy-Light Forces and the NATO Mission," Infantry (July-August 1984): pp. 10-14.

Hartzog, William W., Colonel, USA and John D. Howard, Colonel, USA. "Heavy/Light Operations," Military Review LXVII (April 1987): pp. 24-33.

Haupt, Jerome L., Colonel, USA. "Heavy/Light Operations - An Added Viewpoint," Armed Forces Journal (May 1983): p. 85.

Hines, John G., and Phillip A. Petersen, "Is NATO Thinking Too Small? A Comparison of Command Structure," International Defense Review 19 (May 1986): pp. 563-571.

Hogarth, Frederick. "Dynamic Density: A Deterrent for the OMG," RUSI Journal 132 (June 1987): pp.29-34.

Hollingsworth, James F., Lieutenant General, USA, Ret. "The Light Division," Armed Forces Journal (October 1983): pp. 84-89.

Kennedy, Donald R. "The Infantryman vs. the MBT," National Defense LXIX (March 1985): pp. 27-34.

Killebrew, Robert B., Lieutenant Colonel, USA. "NATO, Deterrence, and Light Divisions," Military Review LXV (May 1985): pp. 2-15.

Koch, Gero, Colonel, Army of the Federal Republic of Germany. "German Infantry in the 1990's," Infantry (July-August 1987): pp. 27-32.

Kroesen, Frederick J., General, USA. "The Ultimate Weapon in War," RUSI Journal (December 1980): pp. 62-64.

Madhok, V.K., Major, Canadian Army. "Combing the Infiltrators," U.S.I. Journal (Date unknown.) From the private collection of LTC John A. English: pp. 226-234.

Marshall, S.L.A., Brigadier General, USA. "Man Against Armor," Armor LXXXIX (January-February 1980): pp. 30-36.

Morlin, R. T., Major. "Attack by Infiltration," U.S.I. Journal (Date unknown.) From the private collection of LTC John A. English: pp. 187-194.

Motley, James B. "Heavy/Light Forces: Assessing the Challenge," Infantry (January-February 1985): pp. 13-14.

Newell, Clayton R., Lieutenant Colonel, USA. "Heavy/Light Forces: Divisions or Brigades?" Infantry (January-February 1985): pp. 12-13.

Nordeen, Lon O. "Today's Infantryman," National Defense LXX (January 1986): pp. 35-40

de Percin, Pierre, Colonel, French Army. "Is Infantry Still Necessary?-The French Army Light Infantry," NATO's Sixteen Nations 31 (June 1986): pp. 50-52.

Olson, William J. "The Light Force Initiative," Military Review LXV (June 1985): pp. 2-17.

Petraeus, David H. "Light Infantry In Europe: Strategic Flexibility and Conventional Deterrence," Military Review LXIV (December 1984): pp. 35-55.

Reed, Fred. "FOG-M Will Redefine War Strategies," The Leavenworth Times (7 October 1987): p. unk.

Richardson, William R., Lieutenant General, USA. "Light Infantry," RUSI Journal (December 1980): pp. 64-67.

Scotter, William, General Sir, British Army. "A Role for Non-Mechanized Infantry," RUSI Journal (December 1980): pp. 59-62.

Stone, Walter. "Development Trends in Light Infantry Weapons," Armada 10 (August 1986): pp. 52-59.

Uhle-Wettler, Franz, Lieutenant General, Army of the Federal Republic of Germany. "Infantry Versus Tank," NATO's Sixteen Nations 29 (May-June 1984): pp. 49-52.

Wass de Czege, Huba, Colonel, USA. "Three Kinds of Infantry," Infantry (July-August 1985): pp. 11-13.

_____. "More on Infantry," Infantry (September-October 1986): pp. 13-15.

Wickham, John A., Jr., General, USA, Chief of Staff. "Light Infantry Divisions In Defense of Europe," NATO's Sixteen Nations Volume 30 No. 1 (1985): pp. 100-107.

Wood, Jack B., LTC, USA. "Heavy-Light Connection: Brigade," Infantry (July-August 1984): pp. 19-22.

4. Books

Barnaby, Frank, editor. Future War. New York: Facts On File, Inc. (1984).

Bryant, Arthur. Jackets of Green. London: Collins (1972).

Dupuy, Trevor N., Colonel, USA, Ret. Elusive Victory: The Arab-Israeli Wars, 1947-1974. Fairfax: Hero Books (1984).

_____. The Evolution of Weapons and Warfare. Fairfax: Hero Books (1984).

English, John A., Lieutenanat Colonel, PPCLI. On Infantry. New York: Praeger Publishers, 1984.

_____. "Thoughts on Close Quarter Anti-Tank Combat," Jane's Military Review, Ian V. Hogg, ed. London: Jane's Publishing Company Limited (1985): pp. 125-136.

_____. "Warsaw Pact Infantry," Jane's Military Review, Colonel John Weeks, ed. London: Jane's Publishing Company Limited (1981): pp. 89-103.

English, John A., Lieutenant Colonel, PPCLI, J. Addicott, Major, and P.J. Kramers, editors. The Mechanized Battlefield: A Tactical Analysis. McLean, VA: Pergamon-Brassey's International Defense Publishers (1985).

Hart, Liddell B. H. The Future of Infantry. Harrisburg: Military Service Publishing Company, 1936.

_____. Strategy. New York: The New American Library, Inc., 1974.

Hart, Liddell B. H., ed. The Rommel Papers. New York: Harcourt, Brace and Company, 1953.

Heilbrunn, Otto. Warfare in the Enemy's Rear. New York: Praeger, 1962.

Isby, D.C. "The US Army's New Light Infantry Divisions," Jane's Military Review, ed. I.V. Hogg (London: Jane's Publishing Company Limited (1986): pp. 92-110.

Laffargue, Andre, Captain, 153d Infantry, French Army. The Attack in Trench Warfare. Translation for the Infantry Jounal by an Officer of Infantry. Washington, D.C.: The United States Infantry Association, 1916.

MacDonald, Charles B., and Sidney T. Mathews. The United States Army in World Ware II; Three Battles: Arnaville, Altuzzo, and Schmidt. Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1952.

Marshall, S.L.A., Colonel, AUS. Men Against Fire: The Problem of Battle Command in Future War. Reprinted by Peter Smith Publishing, Gloucester, Mass., 1978

von Mellenthin, F. W., Major General. Panzer Battles: A Study of the Employment of Armor in the Second World War. Norman: University of Oklahoma Press, 1956.

von Mellenthin, F.W., and R.H.S. Stolfi and E. Sobik. NATO Under Attack: Why the Western Alliance Can Fight Outnumbered and Win in Central Europe Without Nuclear Weapons. Durham: Duke University Press, 1984.

Rommell, Erwin, Field Marshal. Attacks. Vienna: Athena Press, Inc., 1979.

Sajer, Guy. The Forgotten Soldier. London: Sphere Books Limited, 1977.

Simpkin, Richard E. Antitank, An Airmechanized Response to Armored Threats in the 90s. Oxford: Brassey's Publishers Limited, 1982.

_____. "Manoeuvre Theory and the Small Army," British Army Review 78 (December 1984).

_____. Race to the Swift: Thoughts on Twenty-First Century Warfare. Oxford: Brassey's Defence Publishers, 1985.

_____. "The Roles of Infantry in the Manoeuvre Battle," Jane's Military Review, (London: Jane's Publishing Company Limited (1982): pp. 132-147.

Weeks, John. Men Against Tanks. New York: Mason/Charter, 1975.

5. Published Reports

Gates, David. "Western Light Forces and Defence Planning, 1. Some Parallels from the Past," Centre Piece 8. Aberdeen: Centre for Defense Studies (Summer 1985).

_____. "Western Light Forces and Defence Planning, 3. The US Light Divisions," Centre Piece 10. Aberdeen: Centre for Defense Studies (Autumn 1986).

6. Unpublished Dissertations, Theses, and Papers

Canby, Steven L. "Final Report: Classic Light Infantry and New Technology." Submitted to Director, Defense Advanced Research Project Agency, Arlington, VA: Contract No. MDA 903-81-C-0207 (1981).

"Final Report: Strategic Utility of US Light Divisions, A Systematic Evaluation." Contract No. DABT69-84-C-0099 (1 August 1985).

Gardner, Gregory C., Major, USA. "A Concept for the Tactical Employment of Light Infantry in Central Europe." Monograph, School of Advanced Military Studies, US Army Command and General Staff College, 5 December 1986.

Godwin, William A. III, Major, USA. "The Operational Employment of the Light Infantry Division." Monograph, School of Advanced Military Studies, US Army Command and General Staff College, 3 June 1986.

Luttwak, Edward N., Dr. "Historical Analysis and Projection for Army 2000. Volume 1, Part 15. Contemporary Light-Infantry and Mountain Forces: An Exposition and Critique of the West German Mountain-Warfare Manual (Die Kompanien des GebirgaJaegerbataillons." Submitted to Deputy Chief of Staff for Doctrine, US Army Training and Doctrine Command, Fort Monroe, VA: Contract No. DABT58-82-C-0055 (1 March 1983).

_____. "Historical Analysis and Projection for Army 2000. Volume 1, Part 1. The United States Army of the Second World War: The Light Divisions." Submitted to Deputy Chief of Staff for Doctrine, US Army Training and Doctrine Command, Fort Monroe, VA: Contract No. DABT58-82-C-0055 (1 March 1983).

Starry, Michael D., Major, USA. "Close Support Artillery for the U.S. Light Infantry Division." Monograph, School of Advanced Military Studies, US Army Command and General Staff College, 15 December 1986.

Wass de Czege, Huba, Colonel, USA. "Understanding and Developing Combat Power." (10 February 1984) Reproduced by the School of Advanced

Military Studies, United States Army Command and General Staff College, Fort Leavenworth, Kansas (1987).

7. Government Publications

The Joint Chiefs of Staff. JCS Pub. 1, Department of Defense Dictionary of Military and Associated Terms. Washington, D.C.: U.S. Government Printing Office (1 January 1986).

Miller, Ward A., Colonel, USA. The 9th Australian Division Versus the Africa Corps: An Infantry Division Against Tanks--Tobruk, Libya, 1941, Fort Leavenworth: US Army Command and General Staff College, Combat Studies Institute, August 1986.

Uhle-Wettler, Franz, Lieutenant General, Army of the Federal Republic of Germany. Battlefield Central Europe: Danger of Overreliance on Technology by the Armed Forces, (Fort Leavenworth: US Army Command and General Staff College reprint AY 1986-87).

US Army. Army 21: Interim Operational Concept, June 1985. Fort Monroe: Headquarters, United States Army Training and Doctrine Command (June 1985).

_____. DA Pamphlet 20-230, Russian Combat Methods in World War II. Washington, D.C.: Government Printing Office, 1953.

_____. DA Pamphlet 10-236, Night Combat. Washington, D.C.: Government Printing Office, June 1953.

_____. DA Pamphlet 20-240, Rear Area Security in Russia. Washington, D.C.: Government Printing Office, March 1955.

_____. DA Pamphlet 20-261a, The German Campaign in Russia: Planning and Operations. Washington, D.C.: Government Printing Office, March 1955.

_____. FC 7-13, Light Infantry Battalion and Brigade Operations and Battalion ARTEP Mission Training Plan (AMTP), Fort Benning, GA: US Army Infantry School, 1985.

_____. FC 7-14, Light Infantry Company Operations and ARTEP Mission Training Plan (AMTP), Fort Benning, GA: US Army Infantry School, 1985.

_____. FC 71-101, Light Infantry Division Operations, Fort Leavenworth, KS: US Army Command and General Staff College, 1984.

_____. FM 1-112, Attack Helicopter Battalion, Washington, D.C.: Government Printing Office, July 1986.

_____. FM 1-113, Assault Helicopter Battalion, Washington, D.C.: Government Printing Office, October 1986.

_____. FM 7-72, Light Infantry Battalion, Washington, D.C.: Department of the Army, March 1987.

_____. FM 34-1, Intelligence and Electronic Warfare Operations. Washington, D.C.: Government Printing Office, 31 August 1984.

_____. FM 63-5, Combat Service Support Operations-- Theater Army. Washington, D.C., 22 February 1985.

_____. FM 100-5, Operations. Washington, D.C.: Department of the Army, 1986.

_____. 7th Infantry Division (Light) Capabilities Book. Fort Ord: Headquarters, 7th Infantry Division (Light), 15 June 1987.

_____. TRADOC Common Teaching Scenario. Fort Leavenworth: US Army Command and General Staff College, October 1985.

Wickham, John A., Jr., General, USA, Chief of Staff. White Paper 1984: Light Infantry Divisions. Washington, D.C.: Government Printing Office (16 April 1984).

END

DATE

FILMED

5-88

DTIC